Textile World

JULY, 1959

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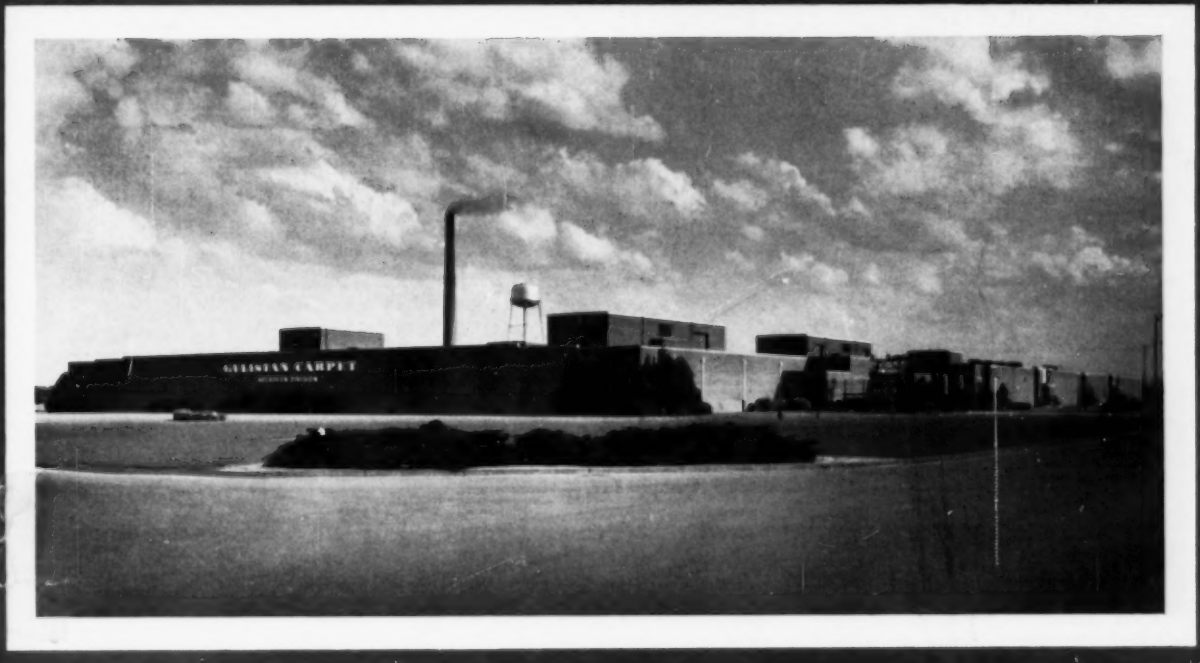

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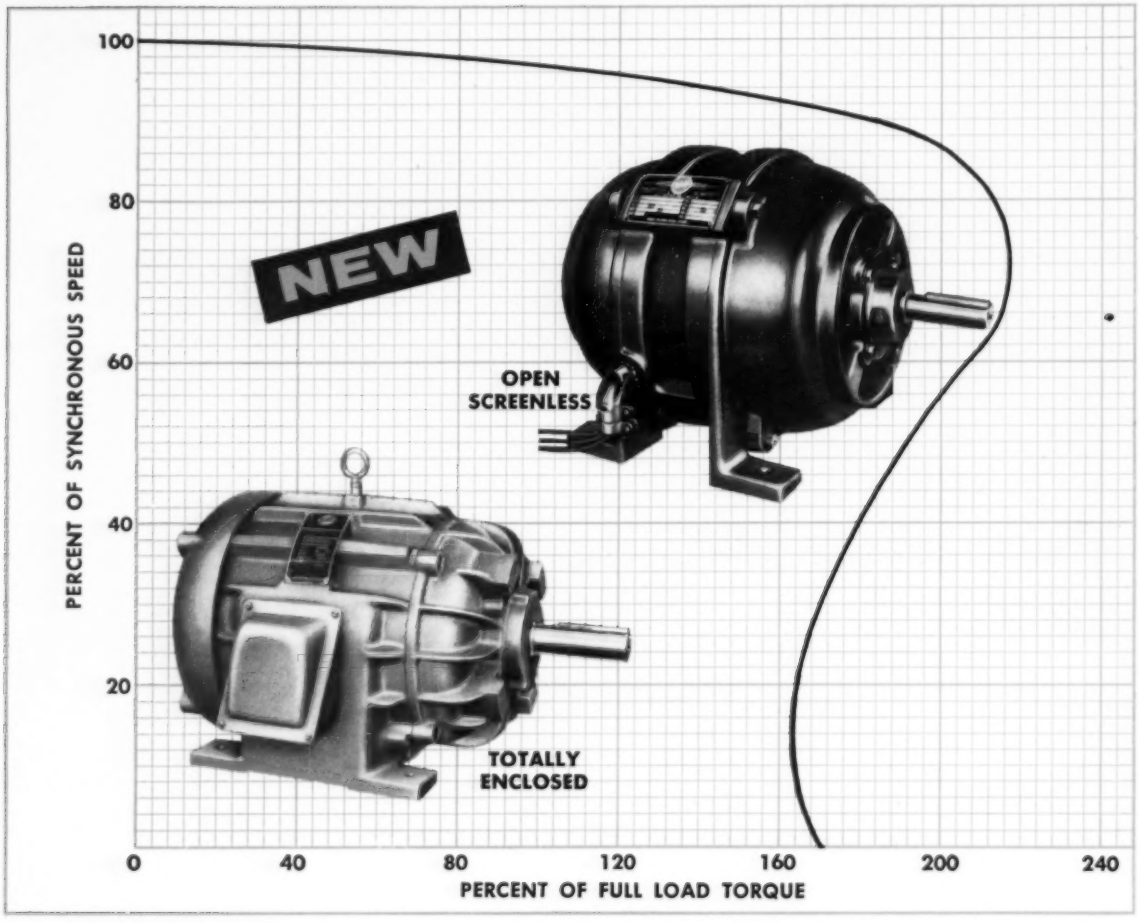

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Mill Production Reaches the 1955 High

Mill production last month reached its third high target in the present rise, now 14 months old. On TEXTILE WORLD's Index chart (p. 10), the curve hit 117, level with the high made in 1955.

That placed production 21.8% above the April 1958 low and 14.7% above June a year ago.

The first high target—the 109 Index point made in late summer and early fall of 1957—was reached last September. The second—the 113 Index point made in the fall of 1956—was passed in March of this year. Last month the third target—the 117 made in November and December of 1955—was reached.

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A rise of only four more Index points, about 3%, will reach the next high target—the 121 touched briefly in May 1953, just under the high points reached in World War II.

If this 121 is broken, as it likely will be about in October, the next high target will be the all-time-high of textile production registered during the Korean War—129 on the Index chart.

That is 10.2% above June 1959 production, and it is not likely to be reached in the present rise before a cyclical decline sets in. According to past patterns, you'd expect the 129 not to be reached before the spring of 1961. It will be reached then only if the present business cycle is a growth period for textiles.

"Market's Gone Crazy," Happy Sales Offices Chorus

Looking for a pessimist in the textile-goods market last month was like looking for the proverbial needle.

As mills and garment manufacturers unveiled their fall 1959 and spring 1960 lines, buyers poured into the New York market by the thousands. More than 10,000 out-of-towners shopped the market, it was estimated; and Deering, Milliken, in a series of big-time breakfast shows at Hotel Statler, fed, entertained, and showed fall fabrics to some 13,000 prospective buyers.

"The market's gone crazy," one seller said. "Nothing like it since the Korea scare in 1950."

Bellweather print cloth sold well ahead. In late May, The Textile Committee of the National Association of Purchasing Agents estimated that about 80% of available production in the third quarter was already booked and about 60% in the fourth quarter. It characterized the cotton-cloth market as "extremely good."

Combed yarns, carded yarns, sheetings, upholstery fabrics, tickings, ducks, sheets, pillowcases, and most smaller-volume goods were available on shorter delivery, from four weeks to three

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Farmers Up, Mills Down In Share of Dollar

Farmers growing textile fiber are making out better in their share of the consumer dollar spent for fiber products than textile manufacturers who use the fiber as raw material, the Northern Textile Assn. reports.

In 1939, cotton farmers got 9.1¢ of each consumer dollar spent for cotton goods. In 1957, they got 13.7¢. In the same period, the share of the cotton-goods dollar obtained by textile manufacturers dropped from 18.2¢ in 1939 to 12.5¢ in 1957.

Wool growers and manufacturers followed the same pattern. The share taken by the wool grower rose from 11.8¢ in 1937 to 13.5¢ in 1957. In the same period, wool textile manufacturers' share dropped from 15.8¢ in 1937 to 13.7¢ in 1957.

1959 Mill Failures One-Third Below 1958

Two mill failures in May, with liabilities of $54,000, brought the total for the first five months of 1959 to 24 failures with liabilities of $2,146,000, Dun & Bradstreet reports.

That compares with 36 failures with liabilities of $3,937,000 in the first five months of 1958.

Tire-Sales Targets Raised

AKRON — Tire manufacturers are upping their 1959 sales sights under the stimulus of better-than-expected sales.

Two months ago, B. F. Goodrich Co.'s president E. F. Tomlinson estimated that sales of all tires would hit 114-million units this year. Goodrich's latest estimate has been raised to 115.3 million.

Passenger-tire estimates have been raised from 93.5-million two months ago to 94.7-million.

J. P. Stevens & Co. Raises Net Income

J. P. Stevens & Co. increased net income from 2.9% of sales in the Nov.-Jan. fiscal quarter to 4.5% of sales in the Feb.-April quarter, according to an interim operating months; but quick delivery was hard to come by.

Mill sales moved up $41-million in the "Latest Month" listed on the table of business indicators (p. 10) over the preceding month. Sales in the month ran $1,241-million, 22.1% ahead of the $1,016-million in the same month a year ago.

Totals for the table listings for the first six months of the year show mill sales of $6,677-million in 1959 compared to $6,046-million in the same period last year. That's a six-months gain of $631-million, equal to 10.4%, in mill sales.

Inventories rose slightly, from $2,451-million in the previous month to $2,457-million in the lastest month, a gain of $6-million.

But inventories were still $149-million lower than in the same month a year ago, and the inventories-to-sales ratio was down to 1.98, compared to 2.04 in the previous month and 2.56 in the same month a year ago.

The ratio means that mill inventories on hand amounted to a little less than two-months production in the latest month, compared to a little over two-months in the previous month and a little over two-and-a-half-months at the same time last year.

Celanese Corp. Moves Into The "Growth" Class Again

Stockholders of Celanese Corp. this month get their first stock dividend in 13 years. About the 15th of the month, shareholders of record at the close of business on June 25 will receive one share for every four shares held.

This move will switch $48,972,369 from capital surplus and earned surplus funds to the corporation's common-stock capital account and will increase common shares held from 5,884,954 to something over 7,100,000.

This will be the first stock dividend since the 2½-for-1 split in the fall of 1946, **and the present rise marks the first time that Celanese stock has performed attractively since 1951.**

After a sharp drop from near 60 in 1951 to near 15 in 1954, Celanese stock barely riffled upward in the sharp 1954-55 market rise and then continued its downward course to a fraction above 10 in late 1957. That made a slide, almost continuous, from a little under 60 to a little over 10 from 1951 to 1957.

But in the present market rise it bounced back to the upper 30's before the stock dividend was announced, regaining more than half its six-year loss.

For the last two years, and so far in 1959, dividends have amounted to $1 a share, double the low of 50¢ paid out in 1955.

●

What caused the slide and the comeback?

Declining sales and profit margins hit Celanese in 1952. Sales slipped from $202.6-million in 1951 to $166.8-million in 1952. Profit margins slid from 32.3% to 19.0%. Both hit bottom in 1954, with sales of only $147.6-million and margins of only 15.6%.

Dividends and price of the stock followed the downward path.

In the four years 1951-54, common shares yielded 5.9%, 5.4%, 4.3% and 3.0%. The year before this period, 1950, yield was 7.0%; and the year after, 1955, it was 2.2%.

Celanese was in trouble, and it set about correcting it through an intensive product-development program. In the five years 1949-1953, it had spent $29.2-million on advertising and research. In the next five years, 1954-1958, the development program was almost doubled, with $43.4-million going for advertising and research.

Sales have increased every year since the new program started, including 1958, when several other fiber producers suffered sharp drops in sales. Profit margins improved and have held steady, again including 1958. Book value per common share climbed from $17.78 in 1954 to $22.02 in 1958, the highest point in the company's history.

●

Here's the record for those five years:

	Sales	Margins	Yield	Book Value
1954...	$147.6 (mil.)	15.6 (%)	3.0 (%)	$17.78 (per share)
1955...	177.5	20.5	2.2	18.49
1956...	188.3	21.8	3.7	20.03
1957...	192.3	21.1	6.9	20.97
1958...	223.7	21.8	5.3	22.02

The 1958 performance was proof of the pudding. For the first time since World War II, Celanese's sales went ahead of big American Viscose Corp.'s.

The two fiber producers came out of the war more or less neck and neck in sales, with Viscose having what slight edge there was: in 1946, $138.8-million to $135.2-million. But in 1950, when Celanese hit its high of $235.5-million, Viscose had pulled away to $267.5-million. By 1954, Celanese's bad year, Viscose's edge had risen to $217.2-million to $147.6-million, with a profit margin of 17.1% to Celanese's 15.6%.

Last year, Celanese took the lead for the first time since the war, with sales of $223.7-million and a margin of 21.8% to Viscose's $217.0-million and a margin of 12.6%.

Estimates of 1959 operations made by The Value Line Investment Survey place Celanese's sales at $240-million with a profit margin of 22.5% and Viscose's sales at $236-million with a margin of 15.0%.

●

Product diversification and development have boosted Celanese back into the category of a "growth" company. Of the corporation's three major divisions, fiber accounts for almost two-thirds of its sales and the other one-third is split nearly evenly between plastics and chemicals.

Present plans are to increase both fiber and chemicals production. Acetic-acid production will be about doubled, and a new plant is under construction for producing the polyester fiber Teron. Teron will be produced and sold by Fiber Industries, Inc., a new company owned jointly by Celanese and Imperial Chemical Industries, the British company that licensed Du Pont to produce polyester fiber in the U.S. under the name Dacron.

statement issued last month.

Sales increased from $95,212,735 in the Nov.-Jan. quarter to $113,964,507 in the Feb.-April quarter, and net income increased from $2,760,835 to $5,241,873—making a six-months total sales of $209,177,242 and net of $8,002,708.

Net income per share of common stock rose from 66¢ in the earlier quarter to $1.25 in the later quarter, making a total for the six months of $1.91 per share.

Net was aided by a tax-loss carryover that eliminated Federal income-tax payment.

The six-months net of $1.91 a share is nearly as much as Stevens earned in all of fiscal 1958 and 1957, when earnings were $2.60 and $2.21 a share.

Manufacturers Expect A Good Third Quarter

Most nondurable-goods manufacturers expect sales and profits to be better in the third quarter of 1959 than in the same period of 1958, according to survey results published by Dun & Bradstreet.

Of 336 nondurable-goods manufacturers reporting on sales expectations, 73% expect sales to be above the 1958 period, 26% expect no change, and 1% expect a decrease.

Of 310 reporting net-profits expectations, 57% expect better profits in the 1959 period than in the 1958 period, 37% expect no change, and 6% expect a decrease.

They were not quite so bullish on prices. Of 333 reporting on selling prices, only 16% expect prices to be above the 1958 quarter, 81% expect no change, and 3% expect a decrease.

Men's-Wear Manufacturers Up Operating Rate 13%

Factory operations of members of the Clothing Manufacturers Assn. in the four months Jan.-April 1959 ran 13% of capacity ahead of the same period in 1958, according to figures released by the association.

The four-months rate this year was 78% of capacity, compared to 65% of capacity in the first four months of 1958.

Increases were made in the following types of garments:

Men's suits, all fabrics and weights	+19%
Sportcoats	+60
Topcoats and overcoats	+17
Pants, all fabrics	+44

Arnel, the triacetate fiber introduced in 1955, has been steadily growing in demand; and production will be increased.

No longer wholly dependent on the fortunes of acetate yarns and fiber, Celanese may now be heading into its brightest period.

Finished Knitted Cloth Up 5% in 1958 Over 1957

Finished knitted cloth shipped for sale registered a 5% gain in 1958 over 1957. In 1958, shipments totaled 202.6-million lbs., compared to 193.5-million lbs. in 1957, according to a report by the Bureau of the Census.

Knitted cloth shipped in the gray was up 18%, amounting to 22.4-million lbs., compared to 18.9-million lbs. in 1957.

Yarn consumed in the production of knitted cloth was up 4%, amounting to 224.1-million lbs., compared to 215.4-million lbs. in 1957. By types of yarn, consumption was:

Cotton yarns, 100.5-million lbs., up 4% from 96.9-million lbs. in 1957

Wool yarns, 8.4-million lbs., down 6% from 9.0-million

Rayon and acetate, 43.8-million, up 8% from 40.6-million

Nylon, 44.1-million, down 1% from 44.6-million.

Soft-Goods Sales Lead in Variety Stores

Soft-goods sales are growing faster than any other section of variety-store sales, according to the latest annual survey of the field by the publication Variety Store Merchandiser.

With the nation's variety stores selling about $4-billion worth of goods a year, apparel, drygoods, and accessories account for about $1½-billion—or one-third of total sales.

Dollar volume of a few selected textile items last year was:

Handkerchiefs	$37.0 (million)
Women's wear	277.5
Men's & boy's wear	159.1
Infant's & children's wear	188.7
Hosiery	233.0

Woolen and Worsteds Declined in 1958

Production of woolen and worsted woven goods in 1958 was down 8.1% from 1957 and 16.6% from 1956, the Bureau of the Census reports.

Last year, production amounted to 270-million linear yards, compared to 294-million in 1957 and 324-million in 1956.

Cotton Ginning Practices To Be Upgraded by USDA

The Dept. of Agriculture last month issued a four-point educational program for reducing damage to cotton by bad ginning practices.

The program is under the direction of the Department's Federal Extension Service, and its purpose is to give the highest return possible to the grower and the best quality of cotton possible to the mill.

In a conference-workship held in Stoneville, Miss., late in April, problems facing the whole cotton industry were aired. Conflicting interests that must be resolved were pinpointed as—

• **Mills must have cotton that will spin better and yield better end products.** With the highest production rates in the history of cotton spinning now necessary, mills are being penalized as much as 2½¢ a lb. of cloth by damage caused in ginning.

• **Cotton growers,** caught in a cost-price squeeze and faced with ever-scarcer and more-expensive labor, are forced to turn more and more to mechanical harvesting. This method of harvesting lowers the grade and value of cotton.

• **Ginners are overcleaning and overdrying cotton** to raise the grade, and therefore the price, of the cotton to the grower. But in the process they are damaging the cotton and increasing mill costs.

•

Research by USDA has shown that moisture in cotton in the harvesting and ginning processes is the single most important factor that influences the quality of cotton. Too much moisture results in rough ginning, lower grade of cotton, and chokes in the gin. Too little moisture results in fiber breakage, poor ginning, and poor spinning performance.

But other factors must be coped with at the gin. Trash is a great villain. Weeds, leaves, and grass, particularly in late-season harvesting, are a problem. With mechanical harvesting at any time of the season, trash is prevalent enough to affect grade.

Such things as obsolete harvesters, poorly trained operators, carelessness in handling seed cotton, and carelessness in harvester maintenance also contribute to the cotton-quality problem.

The USDA educational program is aimed at all steps of cotton growing, harvesting, and ginning; but it comes to its real head with ginning, where most of the quality damage occurs through

efforts to correct mistakes and carelessness made prior to that point.

•

The four-point ginning program launched by the Extension Service is in the form of ginning instructions. The instructions are—

- Use only enough drying for smooth ginning and proper cleaning (5% to 7% moisture gives best results).
- Use only necessary seed-cotton- and lint-cleaning equipment.
- Maintain uniform flow of seed cotton through the ginning system.
- Maintain uniform loose rolls.

Another instruction, which could make it a five-point program, is to group seed cotton according to moisture and trash content for ginning.

USDA experts think that these practices, if uniformly adopted, will help both growers and spinners.

Foreign Loom and Doffer Move Into U.S. Market

Foreign machine manufacturers lost little time in coming up with machinery to compete with Draper Corp.'s shuttleless loom and Deering, Milliken's automatic doffing machine.

About the middle of last month, Edda International Corp. and Abney Mills (through the Southeastern Loom & Machine Works) announced that they will build and sell the Maxbo "non-shuttle" loom developed in Sweden.

A few days earlier, Kanegafuchi Machine Mfg. Co. of Japan announced through its American representative that it has ready for sale in the U.S. an Auto-Doffer for doffing spinning frames.

The Maxbo loom uses air to shoot filling through the shed. The filling is blown from one side by an air-jet arrangement and sucked from the other by a suction arrangement. Reports are that a 40-in. loom will operate at 330 picks per minute.

The Japanese doffing machine is a unit that is fastened to one side of a spinning frame and travels down the side of the frame more or less duplicating mechanically the operations involved in manual doffing. A different unit is required for each spinning side; that is, 100 frames would require 200 Auto-Doffers. Doffing speed is 17 to 25 ft. per min.

U.S. Cotton Team Reports on Russia

Two reports on cotton and cotton textiles in Russia were issued last month by members of the six-man team sent to Russia by the U.S. last September. "Cotton in the Soviet Union" is the official Dept. of Agriculture report, and "Cotton in Russia" is the report

These 1958 figures do not include part-wool fabrics, as the 1957 and 1956 figures did. For example, the popular 55% Dacron-45% wool men's-suiting fabric was taken out of the 1958 figures and classified under polyester-fiber fabrics but remained in the 1957 and 1956 figures.

Therefore the 1958 figures are a reflection only of fabric constructions principally of wool and not a true reflection of wool consumption or of the full use of wool in woolen-type and worsted-type fabrics.

WORLD BRIEFS . . .

Poland Orders British Machinery

LONDON—Poland has ordered $3.64-million worth of cotton spinning machinery from Platt Bros. to be installed in mills in Lodz. Platt will donate nearly $30,000 worth of machinery it is displaying at the Lodz Fair to the Lodz Textile Institute "as a gesture of good will."

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India's Government Moves To Bolster Textile Exports

BOMBAY—The New Delhi government is making somewhat grudging concessions to India's cotton mills in an effort to turn the tide of falling cotton-goods exports.

The government's policy has been to encourage the cottage industry rather than the industry of organized factories. The argument has been going on for years.

Last year exports of cotton goods fell 200-million yds. short of the targeted 800-million, and mills cite the drop as proof that the cottage industry can't meet industrial competition.

Concessions to mills include permission to install 2,500 automatic looms a year for the next three years, plus an undisclosed number to produce goods for export only, permission to exporting mills to double their imports of dyes and chemicals, and permission to increase quotas of foreign cotton.

•

Fiber-Price Drop Slows British Production

LONDON—Man-made-fiber production in Britain dropped to 36.87-million lbs. in April, down 350,000 lbs. from March, according to a report by the British Man-Made Fibers Federation.

Cause of the drop was thought to be the fact that prices dropped April 1 and mills, anticipating the drop, delayed April delivery orders.

Continuous-filament was up—hitting 18.63-million lbs., 460,000 lbs. above March—but staple was down to 18.24-million lbs., compared to 19.05-million lbs. in March.

•

U.S. Fiber-Plant Builder Gets Russian Contract

MOSCOW — Kohorn International Corp., White Plains, N. Y., has been awarded a $5-million-plus contract to build, equip, and supply technical know-how for a new fiber plant to be built about 200 miles south of Moscow.

Last year, Kohorn obtained a contract of about the same amount to build a plant in Russia to make three synthetic fibers.

Thirty years ago, Kohorn built two rayon plants in Russia, one of which was destroyed in World War II and the other of which is still operating.

"Russians have business to offer," Henry von Kohorn told TEXTILE WORLD in his Ukraine hotel suite. "If we don't take it, Western Europe will."

•

British Company, Scragg, Gets $1.68-Million Russian Orders

LONDON—The British textile-machinery manufacturer Ernest Scragg & Sons obtained an order for $1.68-million worth of textile machinery for delivery to Russia. The equipment will be installed in an acetate plant that the Russians recently ordered from Courtaulds. Courtaulds placed the order for textile machinery with Scragg.

Scragg recently announced that it had received orders in the last year for nearly $3-million worth of textile machinery from Russia. The latest contract pushes the total well over $4-million.

Scragg is expanding production facilities to handle the work.

•

Russia Claims New Twister

VIENNA—A dry cotton-yarn twisting machine that operates at 12,000 made by the National Cotton Council member of the team.

Highlights on the cotton-textile industry include—

• Cotton accounts for about 70% of Russia's textile raw materials.

• Mills used about 5.2-million bales of cotton last year.

• Apparel-fiber-fabric production in 1957 amounted to about 7.1-billion meters (7.81-billion yds.). By fiber, production broke down as cotton 78.7%, wool 4.0%, linen 6.0%, man-made-fibers 6.5%, and silk 4.8%.

• Spinning spindles in place were given as 10,147,000 in 1957, a slight increase over the 10,000,000 given for 1955.

•

Mill visits revealed the industry in various stages of efficiency. Much of the machinery is old, and new equipment seemed to be coming in slowly.

Women do 70% to 80% of the work, including heavy jobs done by men in U. S. mills.

The industry was operating below capacity, with domestic consumption held down by high prices.

But everywhere, the team reports, there was "a strong feeling of what will be done in the future and much talk about becoming the No. 1 cotton textile nation by 1965."

Cotton-Subsidy Increase To Aggravate Mill Problems

The bigger-crop, lower-price policy on 1959 cotton boomeranged on U. S. mills last month.

When the government reversed its 25-year policy of holding cotton production down and keeping the price high with supports, mills began to look forward to lower average cotton prices this fall when the Choice B 1959 cotton moves to market.

Now the government has pulled the rug from under mills by increasing the subsidy it pays on cotton sold to other countries. **On Aug. 1, the subsidy goes from 6¢ a lb. to 8¢ a lb.**

What that means is: while U. S. mills will, on average, buy cotton a cent or two per pound cheaper this fall and next year, foreign mills will buy the same cotton for the same cent or two a pound cheaper, plus another 2¢ a pound cheaper by the increase in the government subsidy.

The real difference in the U. S. vs. the foreign buying price will be the 8¢ a lb. subsidy. That amounts to about an average cut of 25¢ on the price of cotton.

•

The stinger, as mills see it, is cotton-goods imports. Here's the way textile men spell it out:

• **U. S. mills are allowed to buy only certain foreign cotton**, and that in small amounts. Strict quotas for noncompetitive cottons and absolute bars for competitive cottons are maintained by the government to protect the U. S. cotton market for cotton growers. By and large, most mills run U. S. cotton, or they don't run.

• **Cotton price is rigidly controlled** by government price supports.

• **Wages,** very much higher than textile wages paid anywhere else, have the floor of the federal minimum wage under them. They cannot be reduced.

• **There is little control over cotton-goods imports into the U.S. market.** This year Japan increased her "voluntary" quota of exports. Hong Kong, a seriously growing threat, refused any sort of control.

This round-the-rosie policy of forced high costs and little or no market protection makes the U.S. mills' domestic market a sitting duck for other countries.

•

The purpose of the cotton-export subsidy is to reduce the surplus of U.S. cotton. But the way it works out, textile men point out, is the government pays the grower to grow it, pays the exporter to sell it, pays through the nose for maintaining the various controls, and then looks the other way when the made-up goods come back into the U.S. market and reduce the amount of cotton used by U.S. mills. That, in turn, increases the surplus the whole program is supposed to reduce.

New Method Establishes Cloth "Quality Level"

A new approach to cloth-quality standards was made last month by a textile-mill association and a garment-manufacturers association in the joint publication of a Manual of Defects and Imperfections.

Said to be the first time that two such groups have jointly agreed on quality standards and methods of judging standards, the manual—

• Defines common defects

• Establishes a "defect points" schedule

• Establishes a formula for converting defect points into a "quality level" for a fabric

In practice, the quality level of fabric desired will be specified in the purchase contract.

•

The associations that worked out the method are The National Assn. of Shirt, Pajama, and Sportswear Manufacturers and the Textile Div. of the American Society for Quality Control.

The method can be used on any woven fabric. Here's how it works—

• **On a cloth-inspection sheet, defects are noted** as "slub," "smash," "mispick," etc.; the yard of the roll at which the defect occurs is noted, as yard 12, 17, 87, etc.; and the penalty points (up to four points per yard) and description of the defect are noted.

• **The penalty points are totaled and applied to the mathematical formula** to find the penalty points per 100 linear yards or 100 sq. yds. of fabric. These points constitute the quality level of the fabric.

rpm. of the spindle is claimed by the Russians. Production is said to be 10% to 12% above existing twisters.

The twister has four banks of spindles, with twisting taking place on the lower three rows and the upper row being used for inactive spare spindles. Gauge is 83 mm. (3.24 ins.), and twist can be set for either *S* or *Z* direction.

•

India and Britain Fail on Export Quota

BOMBAY—The Indo-British talks on a quota for Indian cotton-goods exports to Britain collapsed last month. Result: no "voluntary" agreement that India will limit exports.

Last year, India agreed to limit exports to Britain if Hong Kong and Pakistan did. Later, the Hong Kong agreement with Britain was based on a higher quota than India expected. Now, India wants her quota upped as Hong Kong's was.

•

Britain and Russia Reach Big Trade Agreement

LONDON—Britain will sell Russia complete equipment for five textile-fiber plants; one yarn-throwing plant; one spinning, weaving, and finishing plant; and two chemical plants for producing man-made-fiber intermediates under the new Britain-Russia five-year trade agreement.

The list of plants was released last month by the Board of Trade.

The plants are:

1. A polyacrylonitrile-fiber plant, capacity 15,000 tons annually
2. A high-tenacity-rayon tire-cord plant, capacity 50 tons per 24 hrs.
3. An acetate-filament plant, capacity 5,100 tons annually
4. An acetate-staple plant, capacity 20,000 tons annually
5. A plant for producing AH salt and 6,6 nylon, capacity 10,000 tons of nylon annually
6. 150 twisters for producing elastic yarn
7. A spinning, weaving, and finishing plant for man-made-fiber fabrics
8. A plant for continuous polymerization of caprolactam, capacity 12 tons per 24 hrs.
9. A plant for producing AH salt.

•

Russia plans to import from Britain a total of between $980-million and $1,120-million worth of capital equipment under the five-year agreement, which extends from 1960 through 1964.

Index of manhours worked in the textile industry adjusted for changes in productivity

Textile World's Monthly Indicators

	Latest Month	Previous Month	Year Ago
Textile World's Index (1954=100)	**117**	**115**	**102**
Employment (thousands) B.L.S.	959.5	958.7	921.8
Production Workers (thouands) B.L.S.	868.3	867.6	830.5
Weekly Earnings B.L.S.	$64.15	$63.43	$55.95
Hourly Earnings B.L.S.	$1.58	$1.57	$1.50
Weekly Hours Worked B.L.S.	40.6	40.4	37.3
Production Index (1947-49=100) F.R.B.	117	117	93
Wholesale Price Index (1947-49=100) B.L.S.	94.4	94.1	93.5
Manufacturers' Sales (million $) Commerce	1,241	1,200	1,016
Manufacturers' Inventories (million $) Commerce	2,457	2,451	2,606
Inventories-to-Sales Ratio	1.98	2.04	2.56
Exports (million $) Commerce	84.0	93.0	136.7
Imports (million $) Commerce	97.6	104.4	68.6
Stock Price Index (1941-43=10) Standard & Poor's	29.47	28.01	21.04
Failures (number) Dun & Bradstreet	2	4	3

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947-49=100) F.R.B.	152	150	128
Consumer Price Index (1947-49=100) B.L.S.	123.9	123.9	123.6
Wholesale Price Index (1947-49=100) B.L.S.	119.8	120.0	119.5
Population (millions) Census	174.1	173.9	171.0
Unemployment (millions) Census	3.4	3.6	4.9
Employment (millions) Census	66.0	65.0	64.1
Personal Income (billion $) Commerce	376.2	373.2	349.9

CIRCLE 11 ON READER SERVICE CARD →

Wider use of Scissors-Type Thread Cutting Temples on Draper Looms. Enthusiastic mill interest has prompted the design and adaptation of temples featuring the scissors-type thread cutter to most loom conditions. These new temples can now be applied to virtually all X, X-2, XD, XP, XP Special, XP-2, XL, XK, E, L and O model looms. Fewer parts cut maintenance costs and elimination of thread cutter lubrication reduces the danger of staining the cloth. For complete information contact your Draper sales representative.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

MORE THAN 3½ MILLION SPINDLES NOW EQUIPPED WITH ROBERTS HIGH DRAFT

ROBERTS SPINNING NEWS

PUBLISHED BY ROBERTS COMPANY SANFORD, NORTH CAROLINA

WM-2 SANFORD, NORTH CAROLINA, U. S. A. 1959

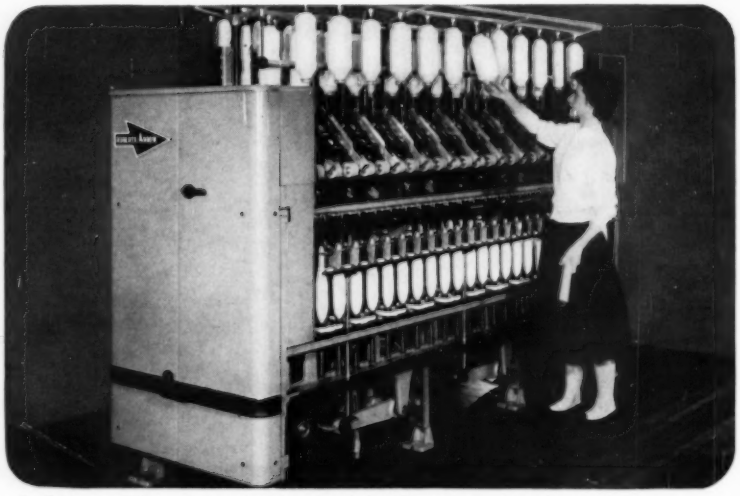
ARROW WM-2 LONG FIBER SPINNING FRAMES OFFER WIDEST YARN MAKING VERSATILITY

A dynamic program of new product design, advanced styling and aggressive merchandising is underway by all segments of the Textile Industry.

Knitting yarns of higher quality and greater interest are being called for in worsted, synthetics and blends. Finer weaving yarns up to 2 ply 80's are being called for and a great many blends are currently being explored. The longer fibers are in wide demand and the next few years should see a substantial boom in this field.

The demand for high bulk knitting yarns and the finer weaving yarns plus all of the newer fabric effects being created require fiber lengths from 3 to 8 inches long.

ARROW WM-2 frames are suitable for making yarns in any fiber length from 1½ to 8 inches. They provide great versatility in handling 100% synthetics, blends of synthetics, 100% worsteds and blends of worsted with synthetics in this range. Better quality yarns with greater evenness, bigger package sizes and higher production speeds are produced on ARROW frames.



- Spins yarn from any natural or synthetic fiber or any blend.
- PermaSet Drafting handles any fiber length from 1½ to 8 inches
- No roll setting changes needed at any time
- Great versatility for changing yarn numbers, twist, draft, ring size, and spindle speed
- Drafts as high as 24 on worsted, 60 on synthetic
- Produces yarn with better evenness and greater breaking strength
- Ball bearing top and bottom rolls eliminate all lubrication in drafting zone
- Almost ideal spinning conditions from delivery roll to spindle
- Runs at higher front roll, traveler and spindle speeds
- Reduces ends down by more than 50%
- Puts twice as much yarn on the bobbin as older frames
- 12-inch bobbins reduce winding costs
- Very rugged, most durable machine ever built for yarn spinning
- Frame is built in the wide-stance 36-inch width
- Uses ball bearings at every moving, turning or oscillating motion
- Substantially lowers electric power consumption
- AeroCreel for single or double roving
- Frame arranged for practical application of overhead cleaning and vacuum floor sweeping

Roberts ShortFlo System for Making Long Fiber Yarns

Roberts Company offers complete technical service in adapting its ShortFlo System for the production of long fiber yarns. This includes the complete yarn manufacturing process starting with tow converters, blending machines, pin drafting, roving frames, spinning frames, winders and twisters.

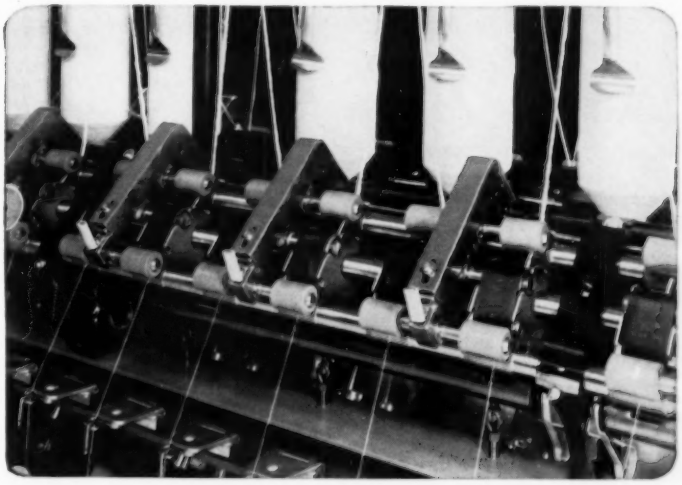
Where mills have existing equipment, full consideration is given to utilizing it whenever possible. Or, if a new long-fiber program is planned, all machinery can be specified, and the complete yarn organization set up.

The ShortFlo System for making long fiber yarns requires a minimum number of processes. Many doublings are provided to insure exceptionally good blending of fibers, improved evenness and better strength.

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM

PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.

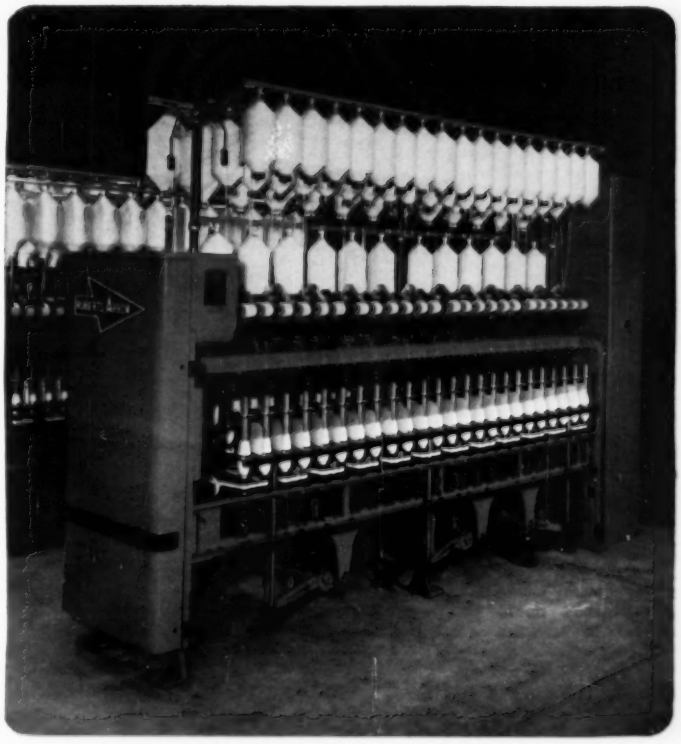


A FEATURE OF

ROBERTS ARROW

MODEL M-1

and changeover modernization for any make of frame



ARROW M-1 SPINNING FRAMES

for cotton and for synthetics 1½ to 3¼ inches long

PosiWate Top Roll Suspension

UnaRing Balloon Control

EvenGrip Fluted Bottom Rolls

Roberts Supreme Ball Bearing Spindles

Double-Apron High Draft System

UnitVac Power-Suction Cleaning

Roberts All-Ball-Bearing Head

Unitized Sectional Frame

AeroCreel with Latch-Type Bobbin Holders

In Mexico, write direct to:

Roberts Co. de Mexico, S.A.
Avenida Reforma 915A
Puebla, Pue.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

Put strength, long life, silence into gears, couplings, loom parts with C D F Celoron® plastic

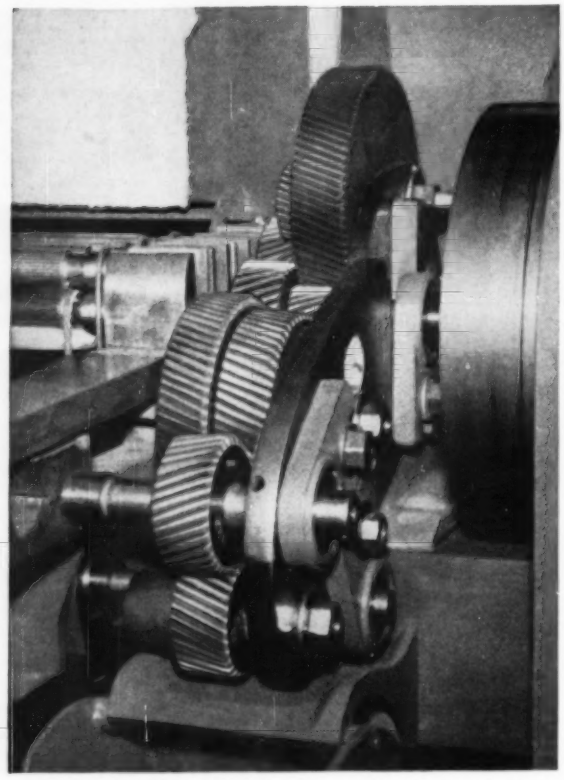
WORK MIRACLES IN TEXTILE MACHINERY—with this amazing golden plastic material! Celoron gears help eliminate noise, reduce wear on mating metal gears; and even the roughest-used helicals last . . . and last . . . and last.

HIGH MECHANICAL STRENGTH. Typical Celoron strengths: tensile, 6,500 psi; flexural, 10,000 psi; compressive, 25,000 psi; shear, 8,500 psi. Dimensionally stable and readily machined, Celoron fills the bill where costly metal parts fail.

ELECTRICAL INSULATION VALUE. Celoron is a non-conductor with high electrical insulation value. It makes ideal mechanical-electrical parts. Celoron couplings effectively insulate motors from driven machinery.

BETTER SERVICE FOR THE SOUTH. Besides having sales engineers in all principal cities, C-D-F maintains a specialized plant-warehouse stocking Celoron parts and Diamond Fibre receptacles for the Southern textile industries at 834 Hayne St., Spartanburg, S. C. Your Celoron gear blank, coupling, or loom part will reach you fast from this wide-awake distribution center.

Keep in close touch with *your* C-D-F sales engineer—a good man to know!

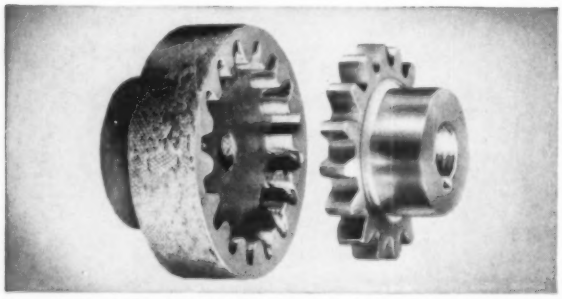


CELORON-TO-CELORON GEARS in drawing rolls made by Ideal Industries, Inc., Bessemer City, N. C. These are helical-cut gears—the toughest to machine, requiring the toughest material. Celoron is it. Other Celoron parts for this application are shown below, top right.

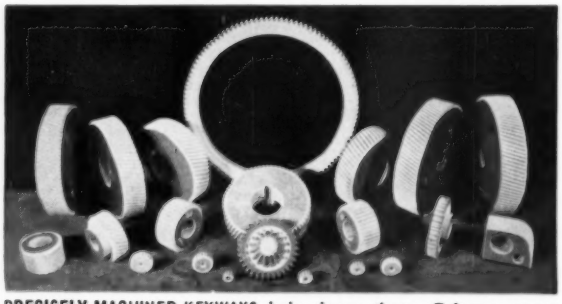
CONTINENTAL-DIAMOND FIBRE

A SUBSIDIARY OF THE Budd COMPANY • NEWARK 55, DEL.

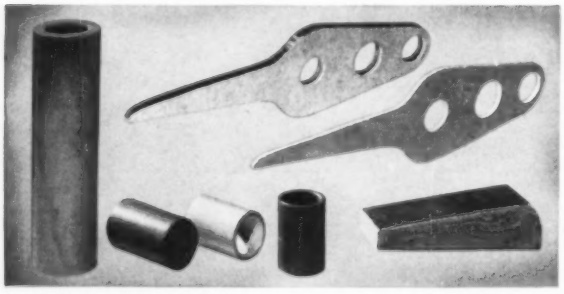
In Canada: 46 Hollinger Road, Toronto 16, Ont.



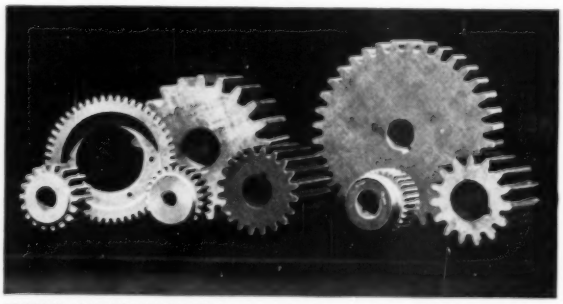
LOW-COST, EASILY-ASSEMBLED C-D-F Celoron flexible coupling transmits power smoothly, efficiently, silently . . . needs no lubrication, works on vertical or horizontal shafts.



PRECISELY MACHINED KEYWAYS help keep these Celoron parts silent and strong in the Ideal drawing rolls illustrated in top photograph. Note wide range of sizes and shapes.



YEARS OF SERVICE, freedom from maintenance, resistance to moisture—that's what these C-D-F parallel plugs, knife guides, binder bushings give the mill operator.



STRONG, SILENT CELORON makes both drive and driven gears. Metal gears don't develop excess play, last longer when they mate with Celoron. Many applications are 100% Celoron-geared.

Investigate Ideal's Liberal Trade-In Allowance on Your Old Drawing Frames

At a very substantial reduction in cost, Ideal will rebuild your drawing frames new, or will furnish you with completely factory rebuilt drawing in either 16" or 18" gauge four delivery frames with the famous Feathertouch action. These are *not* mill changeovers. Every working part above can table is brand new and the drawing is equal in appearance, performance, production, efficiency and quality to *any* completely new drawing on the market. These complete frames are delivered to your mill ready to run, thus eliminating downtime, and inconvenience of rebuilding in your mill. Don't buy *any* drawing until you have investigated this money saving offer. Write, call, or wire for complete information today.

Some Features:

Individual Vacuumatic Cleaning
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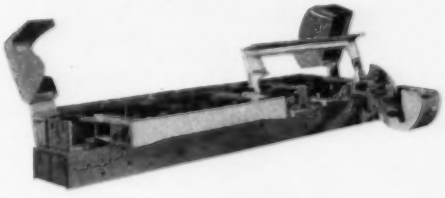
Electro-Magnetic Clutch
Electric Knock-Off Actions
Ball Bearing Spacing Sections
No Shafting, Flat Pulleys, or Belts
The Famous Feathertouch Action
—produces highest quality sliver—at over 400 ft. per min.
Frames can be operated singly or in multiples



These are the only parts of the original frames which are used and they are completely reconditioned and refinished. You get the complete IDEAL frame as shown above at left, ready to run upon arrival at your mill.

Ideal Industries, Inc.
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THE ORIGINATORS OF HIGH SPEED DRAWING

Best way to give mill dirt the air

You do it with TEXAIR hose! That's the familiar red-covered hose you find in mill after mill–doing such a good job of blowing the everlasting lint and dust off the fly frames, knitting machines, even walls and ceilings.

It was designed by the G.T.M. – Goodyear Technical Man–and his colleagues for just this tough job. Right from the smooth, tough cover, it's a dirt-fighter–will not readily pick up dirt that might soil users' hands.

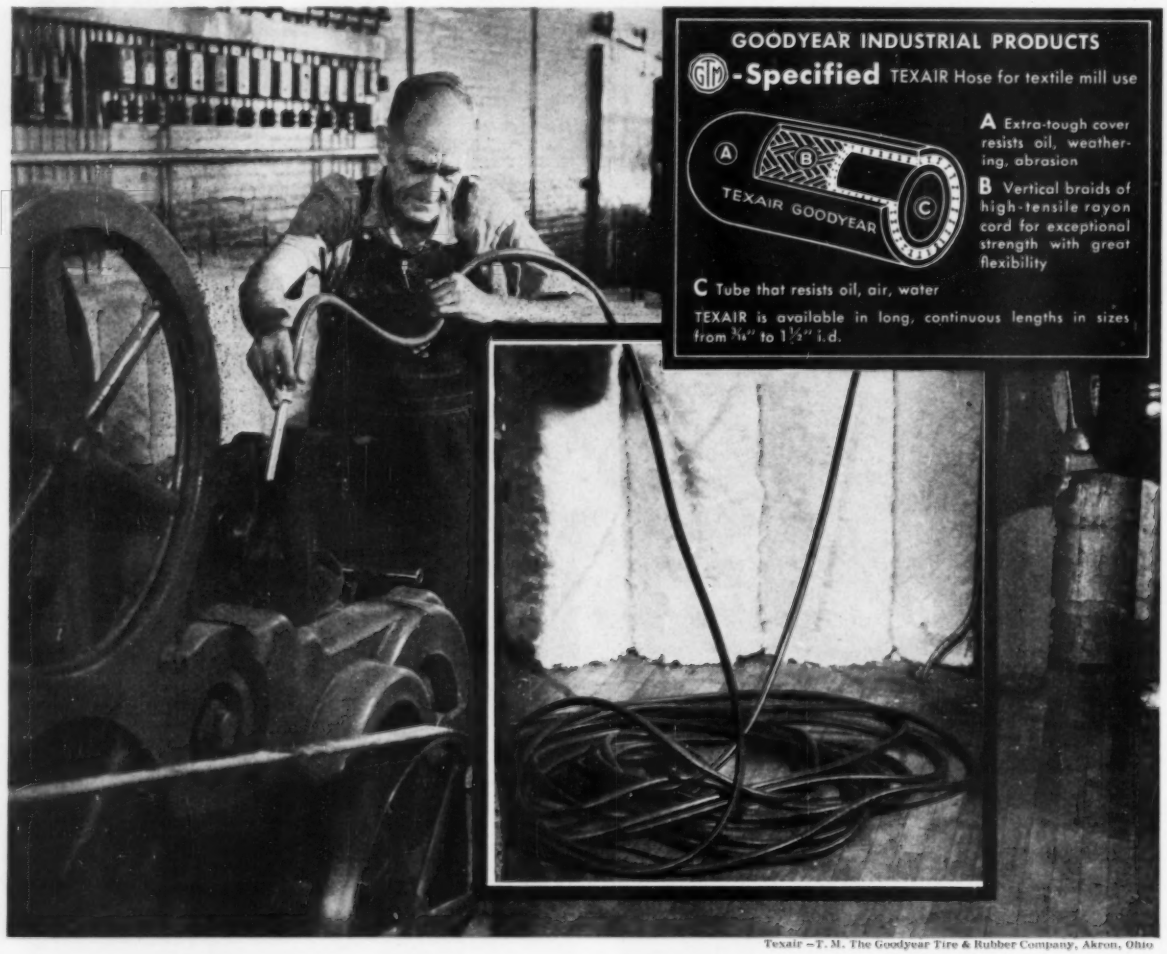
In fact, workers prefer to use light, flexible TEXAIR. It stays limber and easy to handle long after ordinary hose gets unmanageable.

TEXAIR is highly resistant to all the oils used on mill machinery, too. It won't soften up – won't crack – won't slough off. Bills for replacement are far fewer and farther between.

So it's easy to see why better-performing, longer-lasting hose like this rates so high in so many mills. For its full moneysaving story, check with the G.T.M. through your Goodyear Distributor – or by writing

Goodyear, Industrial Products Division,
Akron 16, Ohio

IT'S SMART TO DO BUSINESS *with your Goodyear Distributor. He can give you fast, dependable service on Hose, V-Belts, Flat Belts and many other industrial rubber and non-rubber supplies. Look for him in the Yellow Pages under "Rubber Goods" or "Rubber Products."*


GOODYEAR INDUSTRIAL PRODUCTS
GTM-Specified TEXAIR Hose for textile mill use
A
B
C
TEXAIR GOODYEAR
A Extra-tough cover resists oil, weathering, abrasion
B Vertical braids of high-tensile rayon cord for exceptional strength with great flexibility
C Tube that resists oil, air, water
TEXAIR is available in long, continuous lengths in sizes from 3/16" to 1 1/2" i.d.

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HOSE FOR ALL INDUSTRY BY

GOODYEAR

THE GREATEST NAME IN RUBBER

Amity Dyeing & Finishing Co., Glendale, N. Y., has bought the former 65,000-sq.-ft. U. S. Finishing Co. plant in Norwich, Conn. It plans to enter the printing business.

Beddington Hosiery Mills, Inc., Hickory, N. C., has started building a 15,500-sq.-ft. plant in Hickory at a cost of about $37,000.

Catlin Farish Co., a division of Burlington Industries, Inc., Greensboro, N. C., will take over the operation of manufacturing plants at Batesburg and Lexington, S. C. The mills will produce wide fancy tickings. Both plants are being completely modernized.

Cadillac Hosiery Co., Detroit, Mich., has moved its headquarters to New York City. The company's manufacturing plant is in Asheville, N. C.

H. P. Chandler, Inc., Lowell, Mass., is a newly formed company. It will spin natural and man-made fibers.

Charlotte Knitting Mills, Inc., Charlotte, N. C., has been chartered with authorized capital of $100,000 by Louis S. Goodman, Robert L. Kurtz, and Jane S. Elliott, all of Charlotte.

Costa Mesa Fabrics, Inc., Costa Mesa, Calif., is the name of a newly built textile-manufacturing plant operated by Rockville Processing Co. It will be equipped to process more than 225-million yds. of finished fabric a month.

Excelsior Mills, Inc., Pendleton, S. C., has announced plans to build a woolen-finishing plant at Union, S. C.

General Tire & Rubber Co., Textileather Div., Toledo, Ohio, has started a $1-million expansion program. The program includes a new building and installation of a giant, high-speed calender. Construction is now under way, with the calender slated to be installed about mid-August. Textileather will be able to produce finished vinyl materials in widths up to 84 ins.

Harding Carpets Ltd., Brantford and Guelph, Ont., has started building a 32,000-sq.-ft. addition to its plant in Brantford. Production of tufted carpets, a new field for the company, is scheduled to start in September in the new addition.

Inman Mills, Inman, S. C., will start a $3-million expansion and modernization program. The plans include the building of an addition and modernizing machinery.

Jamaica Woolens Ltd., West Indies subsidiary of George Pattinson & Co. Ltd., Preston, Ont., has started building a $7½-million woolen mill. The 89,000-sq.-ft. main structure will house weaving and machine-shop facilities. A blanket-finishing department and a canteen and locker room will be in two separate buildings. Production will start before the end of the year.

Jonell Chemical Corp.'s dyeing and finishing plant, East Taunton, Mass., has leased over 30,000 sq. ft. of space in the Whittenton Mfg. Co. plant in Taunton. Production will continue until early fall at the present location in East Taunton, at which time installation of new equipment in the Whittenton plant will be completed.

Jones Knitting Corp., Utica, N. Y., has moved its entire operation to East Lumberton, N. C.

Long Shoals Cotton Mills, Inc., Long Shoals, N. C., has bought the Massapoag Mill in Lincolnton, which has been closed for about three years. Long Shoals expects to have the mill in operation within seven months.

N. C. Knitting Mills, Inc., Dallas, N. C., is a new knitting mill occupying the old Monarch Mill. The company will do contract knitting of cotton and man-made fibers.

National Spinning Co., New York, N. Y., is building a knitting-yarn plant on a 20-acre site in Brunswick, N. C. Production is scheduled to start this fall. About 125 people will be employed.

M. Lowenstein & Sons, New York, N. Y., is transferring its fabric-development laboratory from Orr Mills in Anderson, N. C., to a special building under construction in Anderson. The building will have 6,400 sq. ft. of floor space and will cost about $40,000.

Reeves Bros., Inc., New York, N. Y., has announced the organization of ESB-Reeves Corp., jointly formed with Electric Storage Battery Co., Philadelphia, Pa. ESB-Reeves will produce fabrics combined with microporous plastics.

Schoolfield Finishing Plant, commission-finishing unit of Dan River Mills, Inc., New York, N. Y., has been chartered as a corporation. It will be known as Schoolfield Finishers, Inc.

Seneca Knitting Mills Co., Inc., Seneca Falls, N. Y., is building a new plant.

Shuford Mills, Inc., Hickory, N. C., is moving its Highland rayon operations, including the fiber-blending unit, to the old Brookford Mills building. Space vacated at the Highland plant will be used for storage by this plant and the company's tape division.

J. P. Stevens & Co., Inc., Greenville, S. C., has bought Borden Mills, Kingsport, Tenn. The plant at Kingsport will continue to manufacture premium print cloths.

Superior Yarn Mills, Long Island, N. C., is building an addition to its plant in Mt. Holly, N. C. The Mt. Holly plant will house equipment and machinery from the Long Island plant.

United Mills Corp., Mt. Gilead, N. C., is opening a plant in Hamlet, N. C. The company will occupy the building vacated by Hamlet Products Co. and will manufacture lingerie lace. About 150 people will be employed.

West Knitting Corp., Wadesboro, N. C., is planning a 24,000-sq.-ft. addition to its Mill No. 2. It will house the company's entire knitting department.

Zephyr Textiles Ltd., Ormstown, Que., has bought Rosamond Woolen Co. Ltd., Almonte, Ont., from Canadian Cottons Ltd.

CALENDAR

July

1959 Gordon Research Conference on Textiles, Colby Junior College, New London, N. H., July 13 to 17

September

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Sept. 2

Fiber Society, Inc., fall meeting, Princeton, N. J., Sept. 11 & 12

AATCC, Southeastern Section, Ida Cason Callaway Gardens, Pine Mountain, Ga., Sept. 12

3rd International Textile Exposition, Milan, Italy, Sept. 12 to 21

Combed Yarn Spinners Association, annual convention, The Cloister, Sea Island, Ga., Sept. 17 & 18

AATCC, South-Central Section, Hotel Patten, Chattanooga, Tenn., Sept 19

Northern Textile Association, annual meeting, Wentworth-By-The-Sea, Portsmouth, N. H., Sept. 23 & 24

AATCC, Western New England Section, Blake's Restaurant, Springfield, Mass., Sept. 25

AATCC, Niagara Frontier Section, Niagara Falls, Ont., Sept. 25

AATCC, Piedmont Section, Barringer Hotel, Charlotte, N. C., Sept. 25 & 26

American Gas Association, Textile Processing Symposium, Sedgefield Inn, Greensboro, N. C., Sept. 28 & 29

October

Textile Quality Control Association, fall meeting, Grove Park Inn, Asheville, N. C., Oct. 1 & 2

Textile Operating Executives of Georgia, fall meeting (slashing and weaving), Hightower Textile Building, Georgia Institute of Technology, Atlanta, Ga., Oct. 3

Chemical-Finishing Conference, sponsored by the National Cotton Council, Mayflower Hotel, Washington, D. C., Oct. 7

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Oct. 7

N. C. Textile Manufacturers Association, annual convention, Carolina Hotel, Pinehurst, N. C., Oct. 8 & 9

Southern Textile Methods & Standards Association, fall meeting, Clemson House, Clemson, S. C., Oct. 8 & 9

AATCC, annual convention, Sheraton-Park and Shoreham Hotels, Washington, D. C., Oct. 8 to 10

North Carolina Textile Manufacturers Association, annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 8 & 9

Alabama Textile Operating Executives, fall general meeting on carding and spinning problems, Langdon Hall, Auburn, Ala., Oct. 10

AATCC, Northern New England Section, Lexington Inn, Lexington, Mass., Oct. 16

Textile Education Foundation, Inc., annual meeting, A. French Textile School, Georgia Institute of Technology, Atlanta, Ga., Oct. 17

AATCC, Mid-west Section, Bismarck Hotel, Chicago, Ill., Oct. 24

Institute of Textile Technology, Technical Advisory Committee and Board of Trustees, fall meeting, Charlottesville, Va., Oct. 27 & 28

November

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Nov. 4

December

AATCC, Northern New England Section, joint symposium with ASME Textile Engineering Div., Smith House, Cambridge, Mass., Dec. 4

1960

April

American Cotton Manufacturers Institute, annual meeting, Americana Hotel, Bar Harbor, Fla., April 6 to 9

May

American Textile Machinery Exhibition, Atlantic City, N. J., May 23 to 27

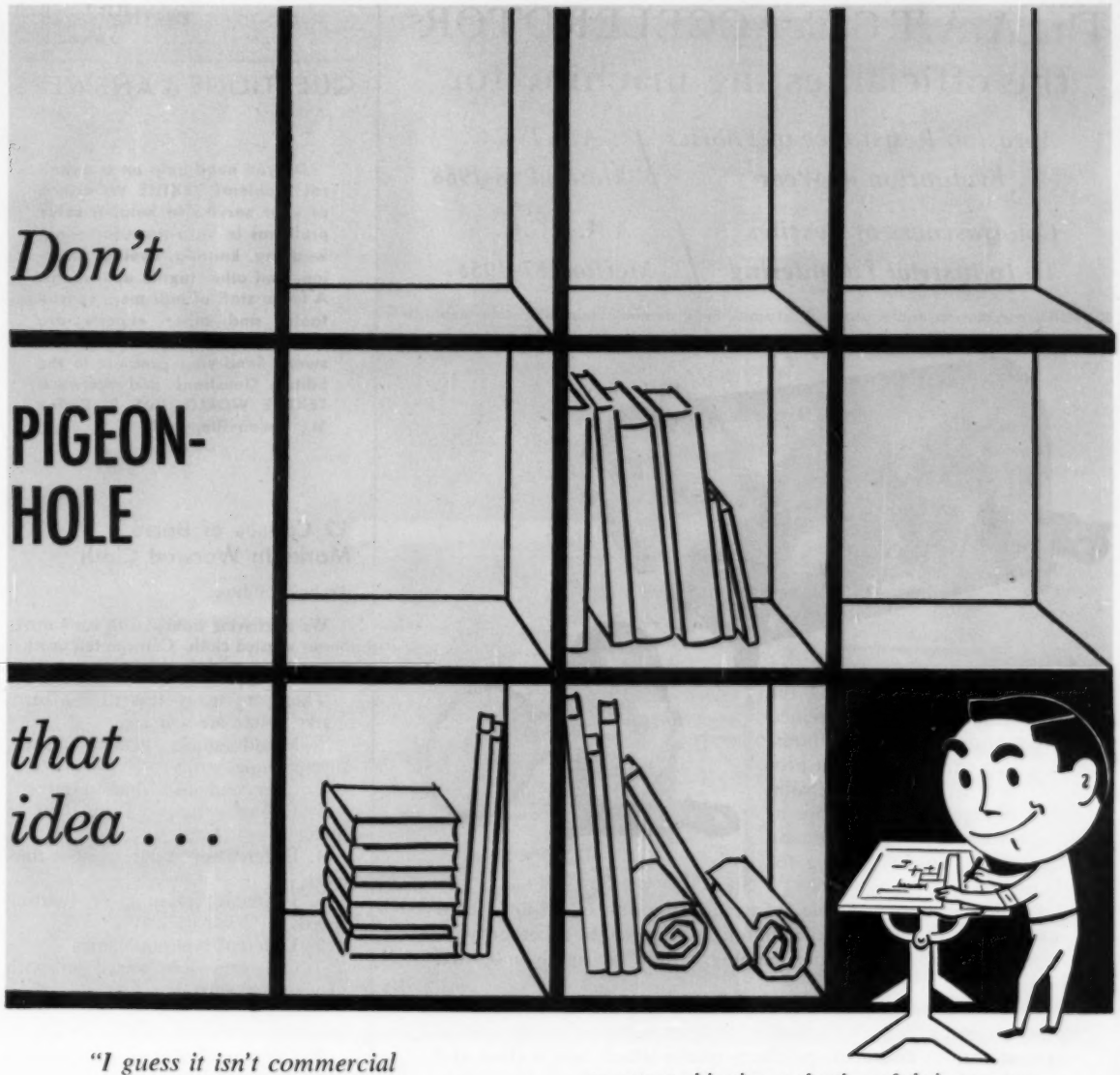
June

Southern Textile Association, annual convention, Grove Park Inn, Asheville, N. C., June 23 to 25

October

21st Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 3 to 7

AATCC, national convention, Sheraton Hotel, Philadelphia, Pa., Oct. 6 to 8



"I guess it isn't commercial . . . I'll forget it."

"It probably isn't economical . . . I might as well file it away."

"Its development will cost us more money than we can afford . . . let's put it off."

How many ideas for an improvement in a machine or an improvement in a process have you pigeon-holed because you didn't know how to get an objective evaluation of their economical or practical application?

Butterworth has changed all that. Many ideas have been brought to practical development in cooperation with Butterworth. A machine-building experience in textile finishing, synthetic fibers, plastics, and special machines for processing industries — plus specialized knowledge and experience in electronics, atomic energy, and missile development — makes Butterworth the place to evaluate your ideas.

Write for a copy of Butterworth's "Guide for Submitting Suggestions."

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The A.A.T.C.C. ACCELEROTOR® the official testing machine for

Abrasion Resistance of Fabrics / Evaluation of Wear — *A.A.T.C.C. Method 93-1958*

Colorfastness of Textiles / To Industrial Laundering — *A.A.T.C.C. Method 87-1958*

Excellent correlation and reproducibility has been demonstrated with this machine

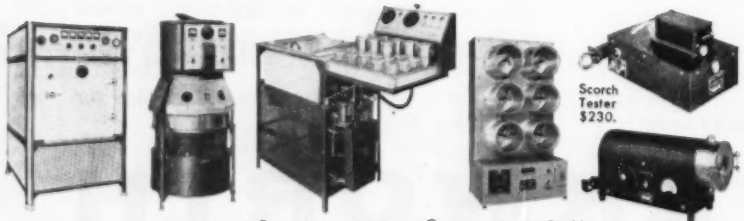
The Accelerotor now has the official status of being specified in the above two test methods. It is also equally useful in producing other types of abrasion such as edge wear, and cooperative work is now in progress on additional methods calling for its use.

Employing new principles of random motion of an unfettered sample it is not subject to the limitations imposed by all other types of abrasion machines which employ a fixed or rigidly mounted sample.

The combined action of flexing, rubbing, scuffing, shock, compression, stretching and abrasion of fiber against fiber as well as against various abradents produces results which bear a close and realistic relationship with actual end-use wear. Both the reproducibility and repeatability of test results are of a very high order.

The Accelerotor is extremely versatile and may be used on all types of fabrics and fiber combinations. The type of results produced permit evaluation by a number of methods which include changes in weight, strength, air permeability, light transmission, visual appearance, hand, etc.

Write for Accelerotor catalog.



Weather-Ometer® $2755 up. Fade-Ometer® $1350 up. Complete with supplies. Launder-Ometer® $875 complete with accessories and supplies. Random Tumble Pilling Tester $485 to $890. Accelerator® $485.

ATLAS ELECTRIC DEVICES CO., 4114 N. Ravenswood Ave., Chicago 13, Illinois, U.S.A.

Sales representatives in principal cities throughout the world

QUESTIONS & ANSWERS

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultants, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

12 Causes of Barré Marks in Worsted Cloth

Technical Editor:

We are having trouble with barré marks in our worsted cloth. Can you tell us what causes these marks? (1450)

There are many reasons for barré marks. Here are a dozen:

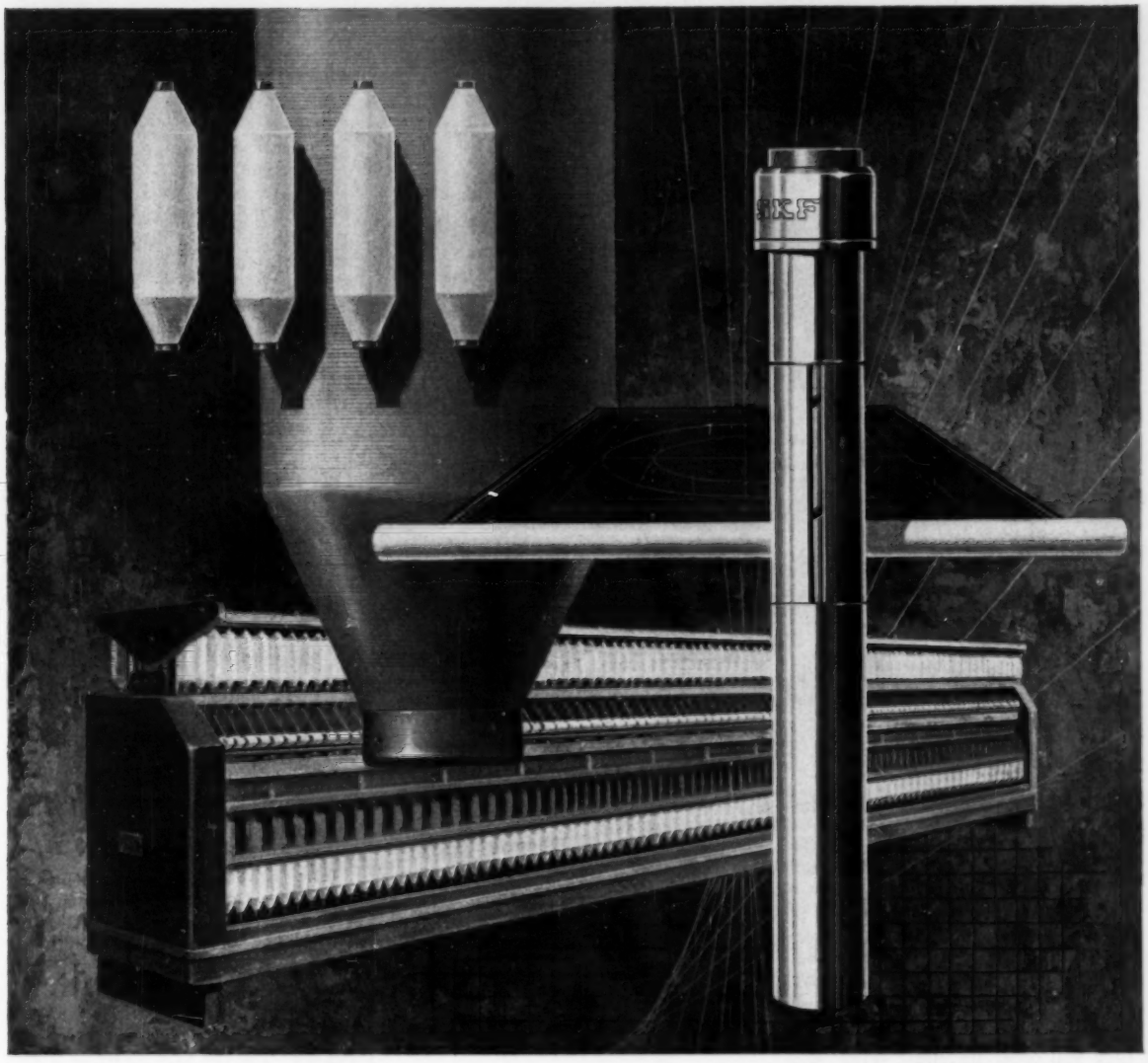
1. Mixed stock: grades, blends, sliver, roving, yarns
2. Over- and underdrafted yarns
3. Different twists; hard twist is duller
4. Different-size rings, caps, or travelers
5. Different spinning or twisting speeds
6. Different types of frames
7. Old yarn lots mixed in with newly made yarn
8. Rewound yarns: S- and Z-twists mixed
9. Overstretched yarn: excessive winding tension
10. Twist-fixing mixed: wet- and dry-twist yarn run together
11. Fiber destruction: through fermentation or chemical action
12. Defective loom take-up, let-off, or filling tension

Acid Colloids Give Rot Resistance to Cotton

Technical Editor:

We produce and finish cotton fabrics that are subject to weathering and rot. Can you suggest some way in which we can improve the resistance of these fabrics to bacterial action? (1441)

Recent reports from the Southern Regional Research Laboratory, USDA, indicate that the acid colloids of methylolmelamine give outstanding



This new SKF bolster belongs in every plan for heavy-package, high-speed frames

This is our new "HF" Series Anti-friction Bolster—designed especially for textile spindles carrying heavier packages and operating at higher speeds. It promises you more profitable production through increased spindle efficiency and major operating economies.

For example, this new bolster reduces spindle maintenance to a minimum. Relubrication cost is reduced to a minimum. And you save on power—because, in many cases, cylinder RPM can be cut without affecting spindle speed or frame efficiency.

Sound right for the heavier package, faster frames you're planning? Wait till you see its smooth acceleration, vibration-free operation and precision "plumbing"! They're additional reasons why you should *specify SKF-equipped—and accept no substitutes.*

For details, call GArfield 6-6400 or write: Textile Sales Division, SKF Industries, Inc., P.O. Box #6731, Philadelphia 32, Pa. 5930

Spherical, Cylindrical, Ball, and "Tyson" Tapered Roller Bearings

EVERY TYPE—EVERY USE

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SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

*Reg. U.S. Pat. Off.

QUALITY PLUS!

As a production specialist, you have every right to expect the best — and something *more* — from the ring travelers you specify. You learn to expect this *extra* quality when you specify National-Sterling Ring Travelers.

Because it's not enough to supply travelers which meet high standards for uniform weight, precision dimensions, temper and finish, National-Sterling Engineers make it a point to go one step beyond. Each spinning and twisting operation is considered as an individual problem. And there are no "stock" answers. Only the *right* travelers—travelers which meet *all* requirements efficiently and economically — are recommended by the men from National-Sterling from tests made in your own mill.

The result is a production plus you can't afford to overlook. Remember, National Travelers consistently deliver more pounds of first class yarn . . . at higher spindle speeds . . . with fewer ends down. Worth considering the next time you order travelers! Write, wire or phone National Ring Traveler Company and Sterling Division, 354 Pine Street, Pawtucket, R. I. Southern Office and Warehouse: P. O. Box 293, Gaffney, South Carolina.

NATIONAL
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RING TRAVELERS

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FOR SPINNING AND TWISTING ALL NATURAL AND SYNTHETIC FIBRES

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rot resistance to cotton fabrics. The material is applied by padding, drying, and curing in the usual way.

Experiments indicated that best results are obtained with a 12% resin add-on of a solution containing 20% formic acid and used within 2 hrs. of preparation.

The treated test fabrics retained 100% strength after 21 weeks of burial in a soil bed. Besides providing rot resistance, the solution produced good crease resistance at a 7% resin add-on level. Weathering resistance was about the same as for fabrics that had been treated with these resins in the usual way.

Two Ways To Clean Knitting Machines

Technical Editor:

We clean our knitting machines largely by hand. This practice is both slow and expensive. Can you give us some ideas that might speed up and reduce the cost of this operation? (1440)

There are two common methods of cleaning knitting machines automatically in the U. S. One method uses a traveling cleaner, which cleans up to 30 machines. The second method uses compressed air with a blowing unit attached to each head of every machine.

The traveling cleaner usually rotates on a track hung from the ceiling. The track winds around the knitting room and is located so that it blows off each machine at intervals of 2 to 4 mins.

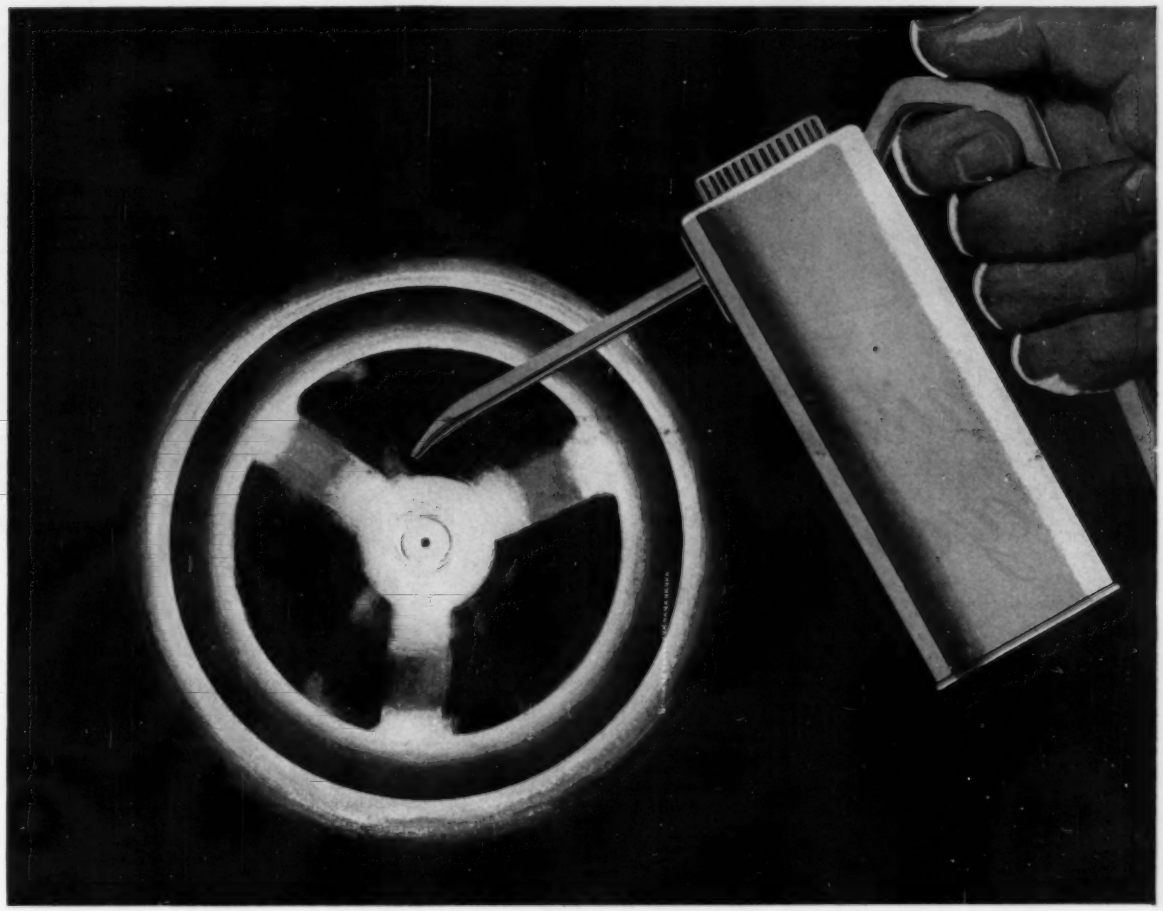
The air blast is created by a fan driven from an electric motor on the cleaner. The fan may rotate or it may have an air duct pointed at the ceiling to keep beams, girders, ceilings, and walls clean.

Individual cleaning systems require a compressor and lines to feed each machine. A 1000-psi.-ga. compressor to deliver 55 to 60 cu. ft. of air per minute would be ample for 50 machines.

Some mills prefer two smaller compressors for emergency sake, and some mills operate a timing device to blow the machines off at regular intervals and conserve air pressure.

Compressed air enters a rotating valve on the top bracket of each head and is carried through a copper pipe down the take-up bracket arm. Small holes near the end of the pipe direct air to the needles and burrs.

Attempts have been made to clean machines by attaching a blade to the take-up bracket, but these experiments have not been successful to date.



Setting new standards in textile machine lubrication

NEW SHELL VEXILLA OILS

To assure high compatibility with today's synthetic fabrics, a completely new line of premium-quality textile machine lubricants has been developed—NEW SHELL VEXILLA OILS. These new oils are available in a wide viscosity range to satisfy all operating requirements.

Check these outstanding advantages:

1. Excellent Scourability—New Vexilla® Oils are *easily* and *readily* removed through conventional scouring procedures . . . completely eliminate oil stain problems.

2. High Oxidation Resistance—New Vexilla Oils contain special oxidation inhibitors to prevent increase of viscosity during service and storage. High viscosity index base oils minimize thinning out at high temperatures.

3. Eliminate Bearing Corrosion—New Vexilla Oils contain a newly developed rust inhibitor which keeps bearings *clean* and *free from corrosion*.

4. Non-Gummy—New Vexilla Oils contain no fixed oils such as lard, tallow and sperm oils to cause gumming. In automatic lubricating systems, they will not form harmful metallic soaps when in contact with zinc or copper.

5. Outstanding Wetting Properties—New Vexilla Oils offer superior metal-wetting properties because of the carefully engineered balance of components and polar character.

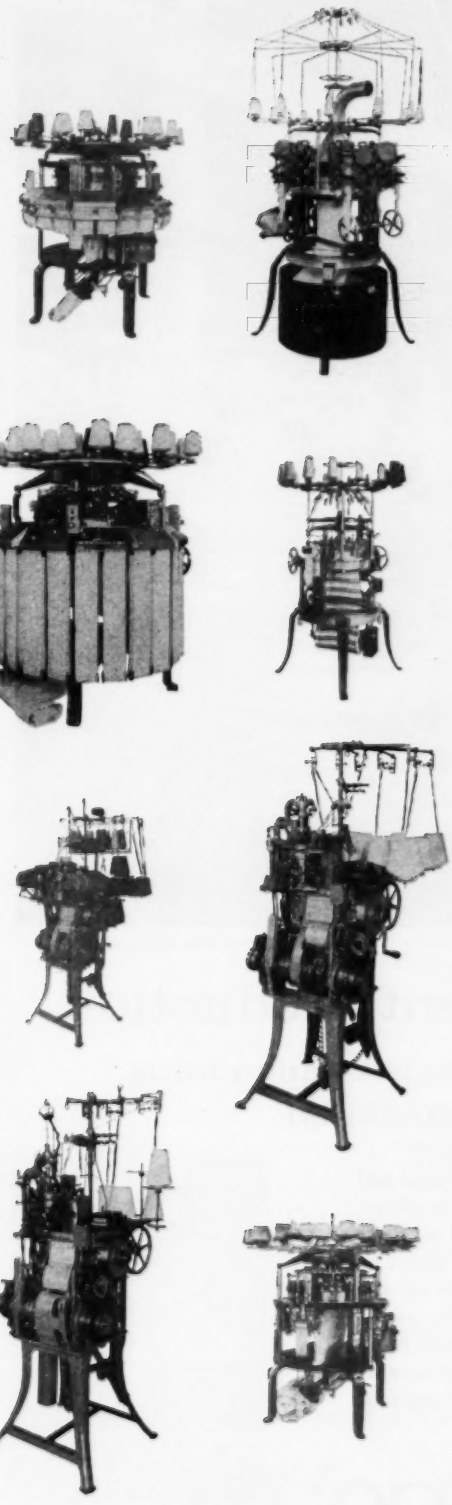
The Shell Industrial Products Salesman will be glad to show you how to reduce maintenance costs and assist in the selection of the appropriate grades for *your* plant operation. Write Shell Oil Company, 50 West 50th Street, New York 20, New York. In Canada: Shell Oil Company of Canada, Limited, 505 University Avenue, Toronto 2, Ontario.

NEW SHELL VEXILLA OILS

. . . quality textile machine lubricants

SHELL

Knitted
Elegance



Wildman Jacquard knitting machines aid in producing the quality fabrics . . . both underwear and outerwear . . . needed by today's family.

From the finest cuts to the fur like fabric of "Hi-Pile", there is a Wildman Jacquard machine to meet virtually all your knitting needs.

In addition to circular and flat knitters, Wildman Jacquard supplies the half hose industry with the famous Hemphill BANNER hosiery machines. Long recognized for quality and versatility, Hemphill machines are capable of handling a wide range of yarns and patterns.

Wildman Jacquard products will help you produce more quality fabrics at less cost.

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Manufacturers of HEMPHILL BANNER Knitting Machines

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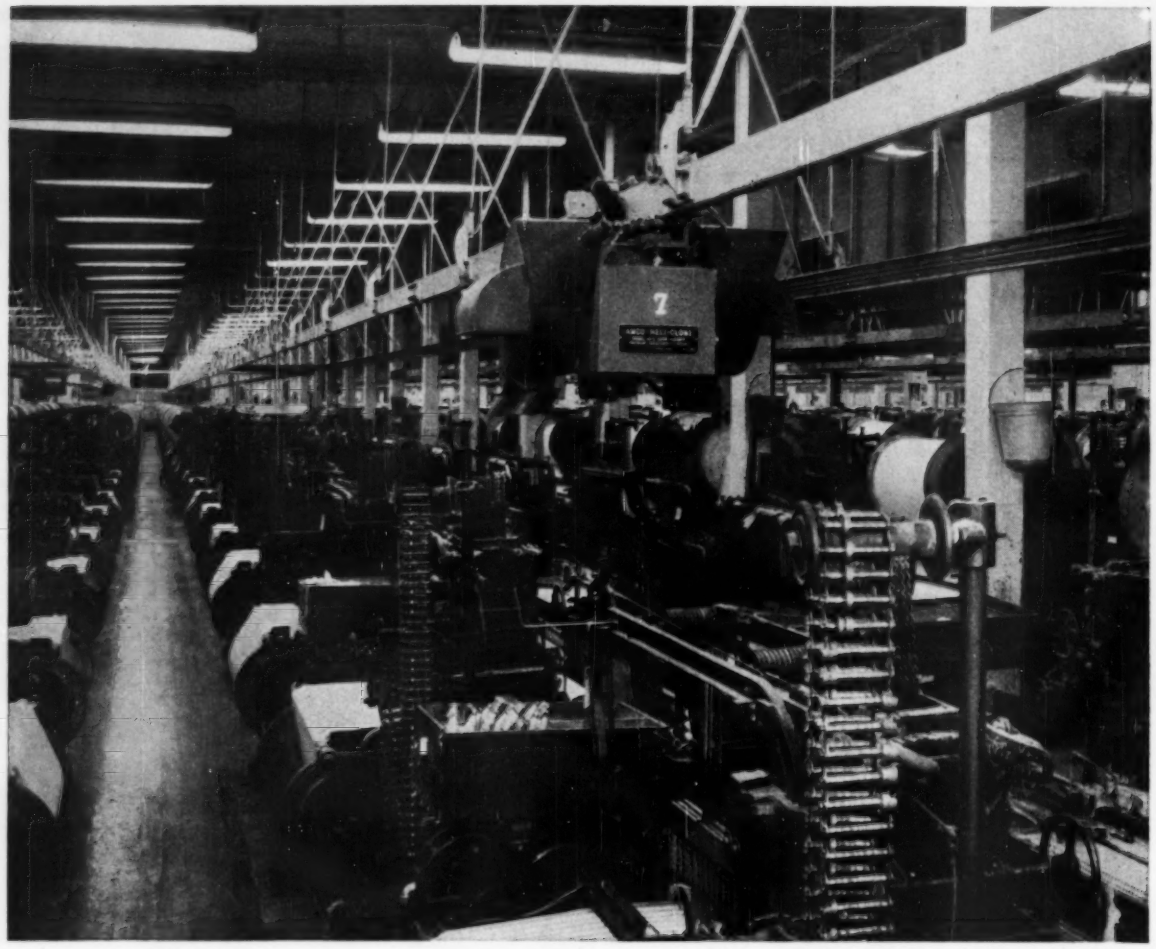


Amco Heliclone Loom Cleaner in Cannon Mills, Kannapolis, N. C.

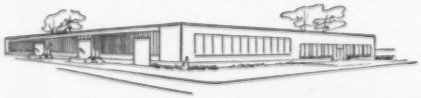
High quality and efficient production

Amco Heliclone® Loom Cleaners help Cannon Mills to maintain these high standards!

At Cannon Mills, Kannapolis, N. C., automatic, continuous cleaning with Heliclone Loom Cleaners helps Cannon to maintain its famous quality — and to meet production schedules. Room appearance is also improved, and employee morale kept high.

Heliclones are designed to help you cut down on the old-fashioned blow pipe and manual method of cleaning. They serve to eliminate end runs and floats, waste bunches, end breakage, overshots, broken picks, and oil spots caused by loose accumulated waste.

Behind the development of the Heliclone is more than 70 years' experience working with textile mills. Amco can help you with your winder and card room cleaning problems, too! Get the facts.



Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

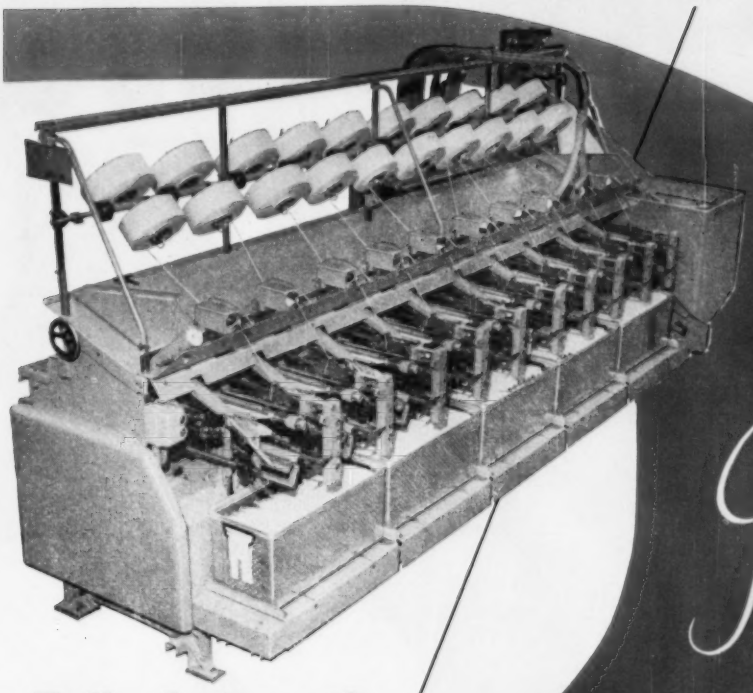
Rotating nozzles driven by air streams form overlapping circular paths. Results: high velocity bursts of air over loom and warp surfaces for best cleaning. Supplementary outlets clean track and ceiling.

AMCO

Since 1888

AIR CONDITIONING EQUIPMENT

American Moistening Company, Cleveland, N. C. • Branches: Atlanta, Ga. • Providence, R. I. • Toronto, Canada



The High Speed Scharer QUILLER

Fully Automatic . . . but simple to operate and maintain

Speeds up to 11,000 R.P.M.
Simplicity of design assures lowest maintenance cost
Patented no-tailing device completely eliminates tails on full bobbins
Produces uniform bobbins with more yarn per package
Special tension control prevents yarn sluffing off
Full bobbins laid uniformly into boxes and ready for use at looms
Operators can handle more spindles and wind more yarn than on any other modern high speed quiller
Exclusive combination blower and vacuum keeps machine and yarn cleaner
Only one motor used to operate entire machine and blower
Automatic loading hopper, handles quills without damage
Ample stocks of replacement parts carried in our Spartanburg Warehouse

Manufactured By: Scharer Textile Machine Works, Erlenbach/Zurich, Switzerland

"Winding Machines Since 1880"

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Sole Scharer Agents in Canada: Hugh Williams & Co., 27 Wellington St. E., Toronto 1, Ont.

W. L. Caviness, Overseer of Spinning at Cone Mills Corporation White Oak Plant, Greensboro, N. C., discusses roll covering problem with Armstrong representative Harold H. Jordan.

Your Armstrong man can help you

GET MAXIMUM PRODUCTION OF HIGH-QUALITY YARN

Your high-draft frames were built to give you maximum production of quality yarn. And the right spinning cot can help them do just that. Selecting the right cot can be a problem, however, because performance can vary with the frame they run on and the fiber being spun.

If you have such a problem, it's a good idea to talk it over with your Armstrong representative. His wide training and experience can be very helpful . . . and he can make dependable recommendations based on the wide variety of materials available in the Accotex line.

For example, if your front-roll lap-up rate is increasing, new Accotex anti-static cots may give you the help you need. These new cots are specially made to combat lapping caused by high static. If eyebrowing is a problem on spinning and roving frames with flat clearers, a switch to Accotex NC-762 will help to eliminate it.

On some frames, a softer cot material has been found to improve break strength and reduce yarn irregularities. Accotex Cots made of softer compounds are available to meet this need.

On any frame . . . with any fiber . . . Accotex Cots will help you get maximum production of top-quality yarn. Your Armstrong man will be glad to help you select the right roll cover for best performance. Armstrong Cork Company, 6507 Dauphin Street, Lancaster, Pa. All Armstrong textile products are available for export.

Armstrong ACCOTEX COTS

. . . used wherever performance counts

CIRCLE 29 ON READER SERVICE CARD

We're very proud of this letter—

ADIRONDACK *Finishing Corp.* TELEPHONES 6-3141

DYERS • FINISHERS • PROCESSORS

WEST CLINTON STREET EXT. JOHNSTOWN, NEW YORK

January 13, 1959

Mr. Harry G. Olson
Divisional Sales Manager
Taylor Instrument Companies
Rochester, New York

Dear Mr. Olson

One of the most difficult problems for a great many years in a dyehouse has been the lack of control in obtaining specific dyeing temperatures from batch to batch. The exhaustion of dyes can also vary by inconsistent time cycles during the rate of rise.

After a trial period of several months using the new TAYLOR FULFLEX DYE CYCLE CONTROLLER, we found this instrument under actual plant conditions, gave the control needed to produce top quality dyeing.

We are looking forward to the installation of these units on all of our dye becks, as in todays competitive market we need automatic controls and the ability to reproduce accepted standards.

Your desire to investigate our problems and to develop this instrument is greatly appreciated.

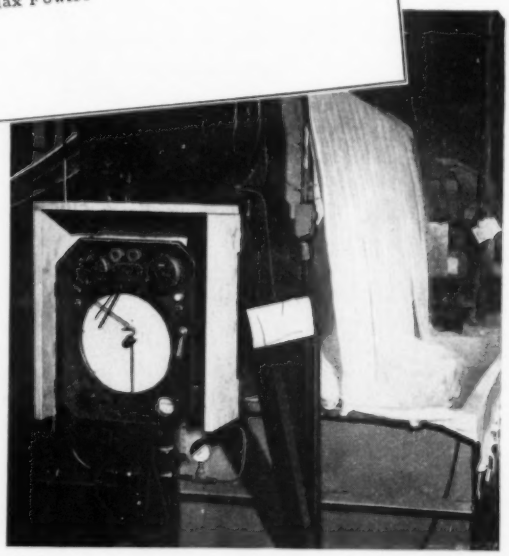
Very truly yours,

ADIRONDACK FINISHING CORP.

Wm. Max Fowler

Wm. Max Fowler

WMF:jf



Also we know there is no better salesman than an enthusiastic user. The small photograph to the right shows how the Taylor FULFLEX* Dye Cycle Controller looks "on the job" at Adirondack.

The instrument is completely adjustable—including: starting temperature, initial holding time, rate of rise, hold temperature, hold control times, add periods, forced cooling and end temperature. Ask your Taylor Field Engineer for a demonstration or write Taylor Instrument Companies, Rochester, New York, or Toronto, Ontario.

Remember, *Taylor Instruments mean accuracy first.*

*Trade-Mark

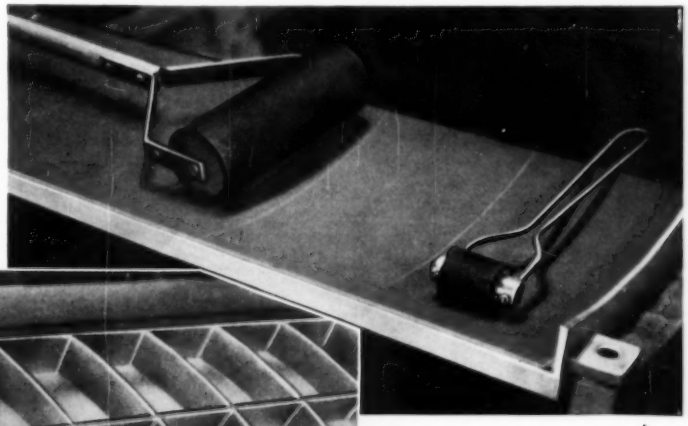
Taylor Instruments MEAN ACCURACY FIRST

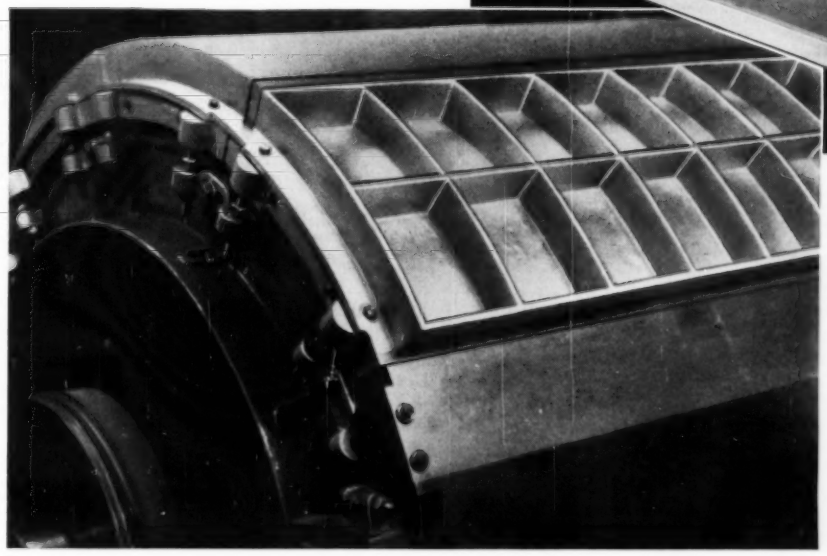
BOOTH ANNOUNCES

GRAN-O-TOP

SRRL GRANULAR CARD CONVERSION

Rigid aluminum SRRL Card Top completely covers card, sealing it against dust and fly. Setting is simplified by adjusting screws and locknut. Once proper settings have been attained, Cards run for months without attention. Gran-O-Top sections may be removed, reclothed, and replaced without further adjustment.





Application of granular material is quick and simple. Pressure sensitive adhesive backed sheets are rolled on Gran-O-Top: will last six months on three shift operation. Entire reclothing job takes less than two (2) hours.

Booth Gran-O-Top Granular Card Conversion is a complete conversion unit, including Gran-O-Top Sections, all make-up pieces, special SRRL Lickerin Cover and Pre-Opener Roll. Manufactured in Charlotte by The Carolina Machinery Company, Booth Gran-O-Top Conversion Units will soon be available to fit all current 40" Flat Top Cards.

BOOTH GRAN-O-TOP OFFERS THESE ADVANTAGES:

1. Quality Maintained.
2. Flat waste eliminated.
3. No Flat stripping or grinding.
4. Simple carefree operation.
5. Reduced Weight.
6. Twenty percent less power required to drive card.
7. No moving parts.
8. Operating costs down.

Send for descriptive folder. Order now for prompt delivery. Phone: Philadelphia, REgent 9-8989. Charlotte, EXpress 2-3137.

Combine BOOTH MICR-O-GRIND with GRAN-O-TOP for the ultimate in cotton carding.

BENJAMIN BOOTH COMPANY

ALLEGHENY & JANNEY STS., PHILA. 34, PA.

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Booth

CIRCLE 31 ON READER SERVICE CARD

CIRCLE 32 ON READER SERVICE CARD ➤

National® CARBANTHRENE® Dyes

are everything you demand in today's versatile vat dyes!

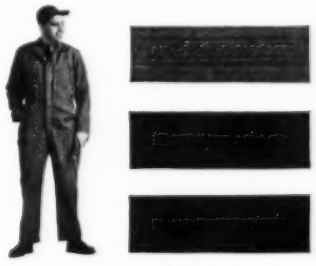
With automatic washers and the popularity of wash-and-wear, vat dyes are in growing demand for everything from denims to draperies and the finest fashions.

As production of vat-dyed fabrics increases, time-consuming application methods are replaced by new techniques. Continuous pad-steam and pigment impregnation dyeing processes require vat dyes of vastly improved dispersibility.

That's why modern Carbanthrene Vat Dyes are the first choice of an increasing number of leading mills for cottons and viscose.

Fine-particle Carbanthrenes assure cleaner, brighter dyeings time after time. Piece goods are level and free of speckiness. Packages are penetrated thoroughly and evenly. Processing troubles are minimized.

Carbanthrene Vat Dyes are amply stocked near textile-producing centers. We will be glad to arrange a trial in your mill at your convenience.



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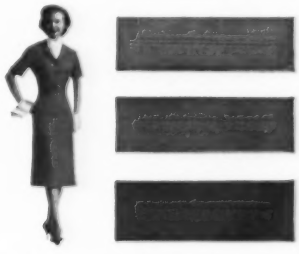
Especially recommended for charcoal and other greys in work clothes and wash-wear fabrics. Outstanding for wash and light fastness. Ask for Bulletin 442.



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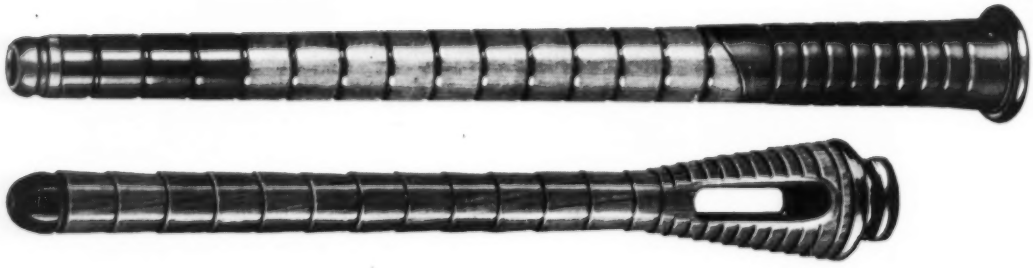

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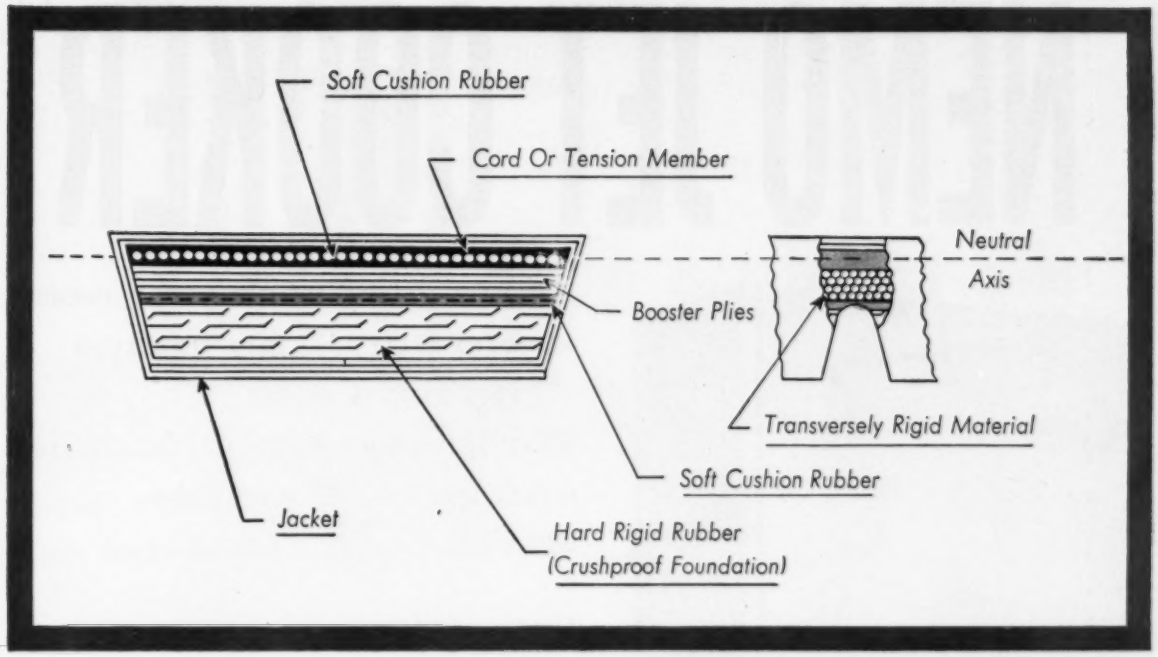

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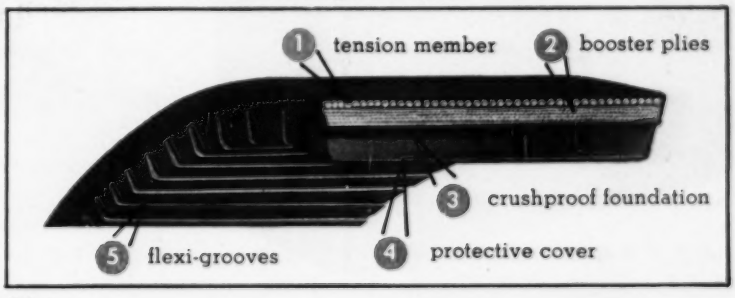

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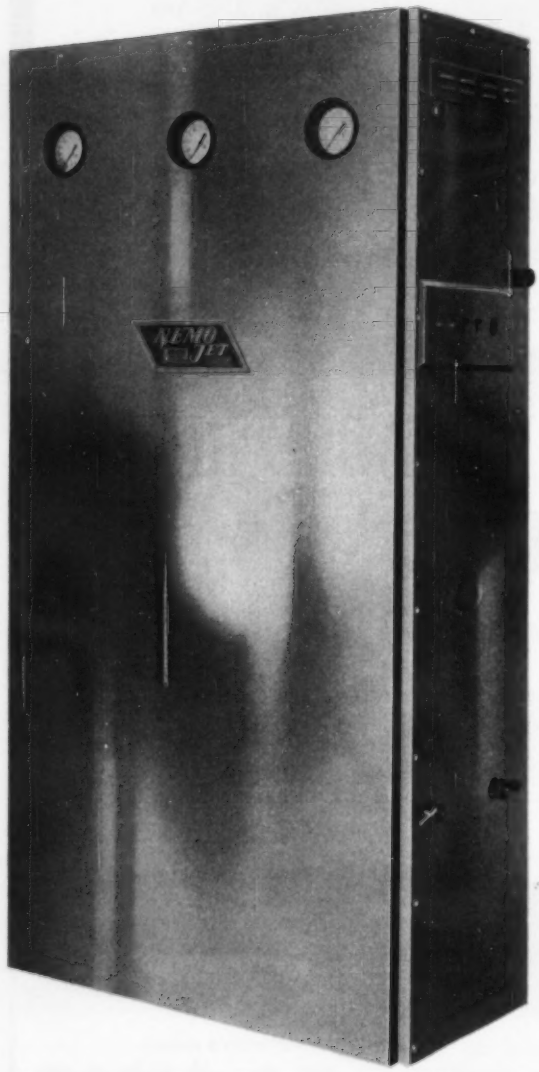

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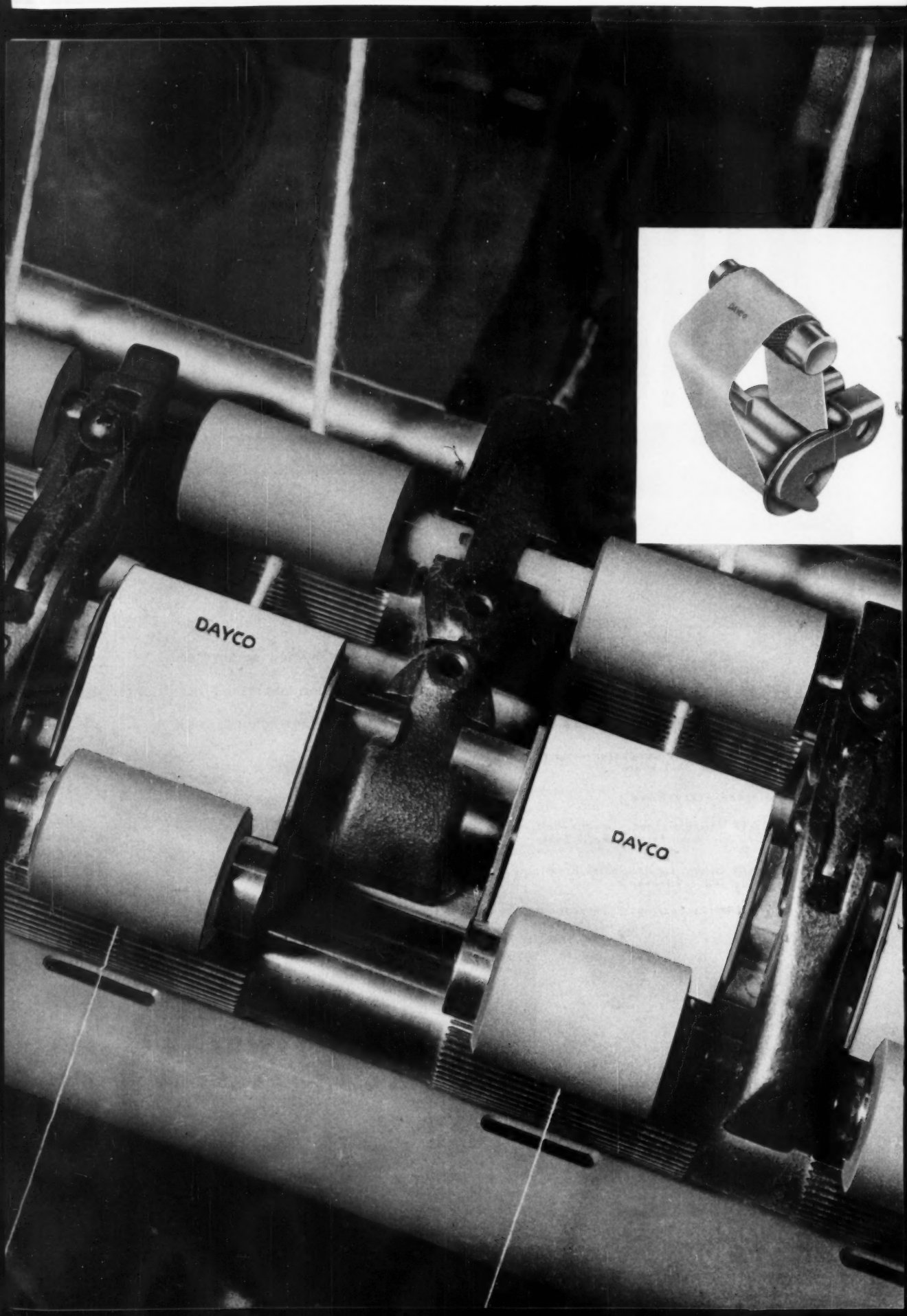
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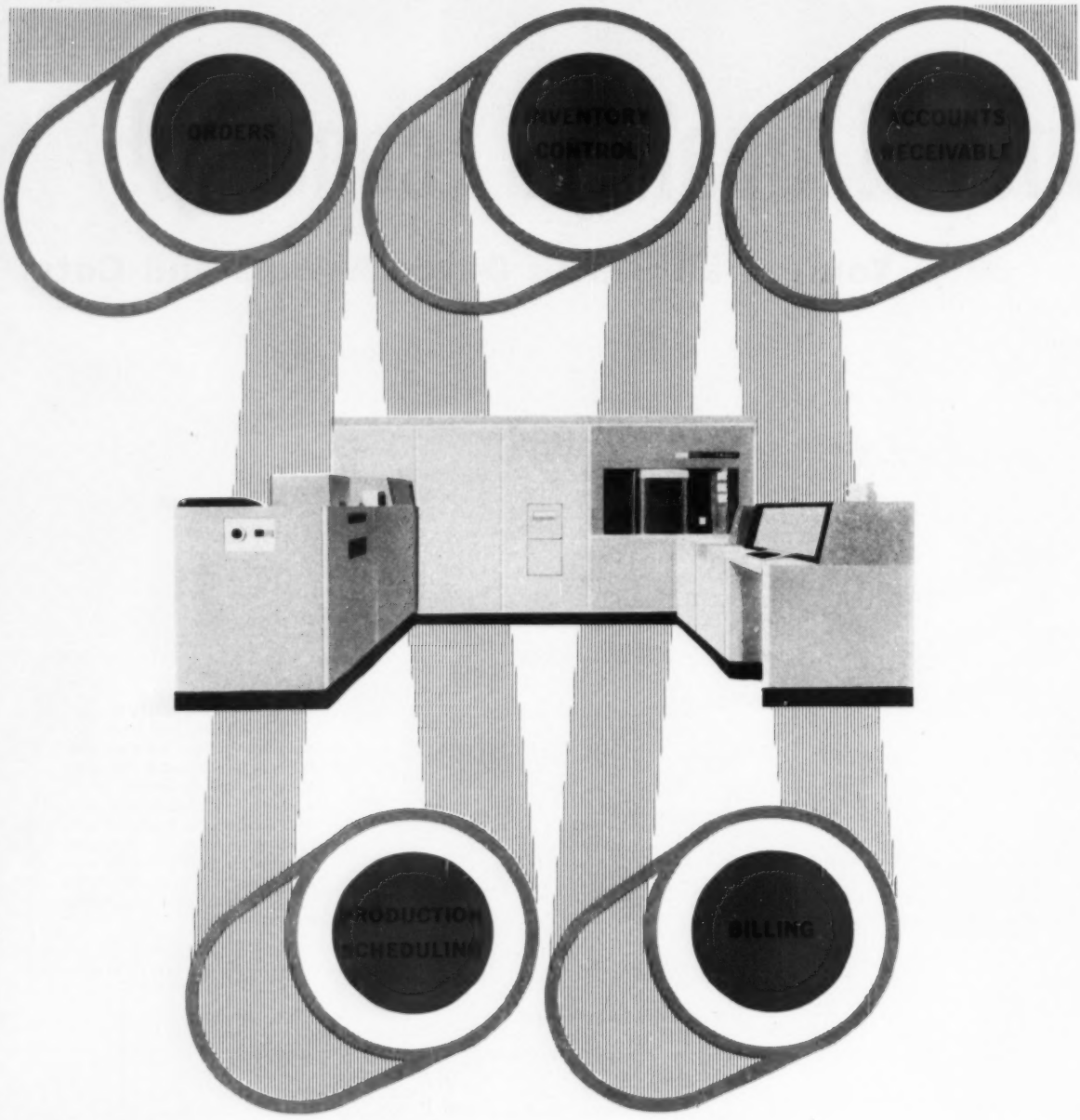

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What About 1960 and 1961?

In late years a great deal has been written and said about declining capacity in the textile industry and the point at which expansion must begin. And we are now beginning to hear the space-age term "technical break-through" applied to textiles, suggesting that technical progress was halted by some obstacle now suddenly overcome.

The textile industry this year is consuming fiber at a rate about 20% above the average rate for the 1954-58 business cycle and about 18% above the 20-yr. 1939-58 average. So it seems obvious that the industry is not lacking in production capacity and does not particularly need a "technical break-through" to produce more goods than will sell.

The real problem seems to be producing at a profit.

Unless it is happening this year, industry profits have not averaged 3.0% of sales in any quarter since 1951 and have been well below the 4.5% for all non-durable-goods industries.

Profits Pattern

It is well known that production and profits rise rapidly in the come-back period after a recession, for example, in 1950, 1955, and this year. But then profits begin to decline again.

In 1949, industry profits averaged 4.0%, rose to 5.8% in 1950, and dropped back to 3.9% in 1951. In 1954, they averaged 0.9%, rose to 2.6% in 1955 and 1956, and slid to 1.9% in 1957.

We don't know yet what profits averaged in early 1959 or how they will go for the last half. But it will be surprising to see them much above 3.0%. They may not go that high. That means that the usual slide after the present come-back from the 1958 recession probably will carry profits to unsatisfactory levels again.

So the most important problem facing the textile industry today is how to prevent a profits decline in 1960 and 1961.

By and large, how an individual company makes out in a profits decline can be gauged by how it is making out now. If profits now are only average, they are likely to remain about average when the average goes down. If they are now much below average, the company is a good candidate for liquidation in one, two, or three years.

Solution: Reduce Costs

The only solution to the low-profits problem is lower production costs, and it has to be solved on an individual-mill basis. There is no such thing as an "industry" in business to produce and sell. Only individual companies produce and sell and make money or lose money.

There has not been a "technical break-through" in textiles, and there's not likely to be one. Even so, there is not a mill anywhere that is completely up to date. There is not one that is producing at as low a cost as it could. Machines and methods are available that can very significantly increase profits for any mill in business.

The facts that average industry profits have been low and will be again and that there are still a great many mills that can make a profit only in above-average periods like 1959 indicate that there is a golden opportunity for profits in textiles.

A mill that made itself really efficient would make money even in recession years. Some mills do. Some did in 1949, 1954, and 1957-58. Some mills will in 1960 and 1961.

Efforts to control production or to prevent overproduction will never be successful unless it is done by government regulation. And nobody wants that. The only remedy is for a few companies in each branch of textiles to become, and remain, so efficient that the marginal operators who disrupt the market cannot stay in business.

Whether or not that happens, the real problem for a mill is profits in bad years. And the solution is efficiency and cost-cutting.

D. M. Thomas

Knitted fabric mosaic after "Murnau" by Wassily Kandinsky (1866-1944). One of the first great modern painters, Kandinsky's early works were expressionistic, later they became pure abstractions.

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CIRCLE NO. 42 READER SERVICE CARD

Textile World

Volume 109, No. 7, July, 1959

FTC Issues Rules For Fiber Identification

Last month the Federal Trade Commission issued the final Rules and Regulations for fiber identification after Mar. 3, 1960. The Act requires that—

- **16 generic names be used for man-made fibers**
- **Fiber percentages by weight must be given**
- **ASTM procedures must be used for tests**

THE FEDERAL TRADE COMMISSION last month released the final rules for labeling nearly all consumer textile products after Mar. 3, 1960. In addition to wool and fur products, which already require labeling, the new act extends labeling to products made of cotton, man-made fibers, silk, and other fibers.

The rules were issued under the Textile Fiber Products Identification Act approved Sept. 2, 1958. Public hearings on the rules were held in March. Here are the highlights of the Act:

Purpose

The purpose of the Act is "to protect producers and consumers against misbranding and false advertising of fiber content." It aims to eliminate statements on labels, in advertising, and elsewhere that could mislead textile consumers and to ban competition that is unfair to manufacturers and distributors.

What It Covers

It specifically covers "household textile articles," including wearing apparel and accessories. Until now, accessories have not usually been classed as "household items" in trade usage.

Who Is Responsible

Textile manufacturers, including mills, of products subject to the Act are responsible for proper identification of the fiber content of their products. They must maintain and preserve for three years written records showing fiber content by percentage.

The records required are described as including invoices, contracts, labels, orders, factory records, business correspondence, and other pertinent documents "applicable to the purchase, receipt, use, and disposition of all raw stocks, fiber, yarn, fabric, and other manufactured materials obtained by the manufacturer."

Many practices unlawful under the Act do not apply to the processor or finisher who does not change the fiber content of the product. The person who directs the finisher to label or identify the product shall be responsible, without, however, relieving the finisher of any liability to which he may be subject.

Also exempted under the Act are common carriers, exporters, publishers, and advertising agencies, provided that the last two furnish FTC the name and address of the person who caused the dissemination of the advertising material adjudged false or misleading.

Manufacturers or handlers may get protection against inadvertent unlawful acts by receiving from the person from whom the product was obtained a guaranty that the product is not misbranded under the Act. The guaranty may be a separate guaranty for each transaction, a continuing guaranty given to the buyer, or a continuing guaranty filed with FTC. A handler may issue a guaranty based on a guaranty by stating that such is the case.

Statements on labels or invoices are not considered a form of separate guaranty. Forms for these guaranties are specified in Rules 36, 37, and 38.

What Products Are Included

Textile-fiber products included under the Act are: articles of wearing apparel, handkerchiefs, scarfs, beddings, curtains, draperies, tablecloths, napkins, doilies, floor coverings, towels, wash and dish cloths, ironing-board covers and pads, umbrellas, parasols, batts, flags, cushions, slip and other covers for furniture, afghans, throws, sleeping bags, antimacassars, tidies, hammocks, dresser and other furniture scarfs, upholstery or mattress stuffing only if reused, and "all fibers, yarns and fabrics (includ-

ing narrow fabrics except packaging ribbons)."

What Products Are Excluded

Excluded from the Act under Rule 45 are: suspenders, arm bands, permanently knotted neckties, garters, sanitary belts, diaper linings, labels, looper clips for handicraft, book cloth, artists' canvas, tapestry cloth, shoe laces, coated fabrics, second-hand household textiles, fiber products sold exclusively to the maker's employees, and nonwoven products intended for one-time use.

However, if any representation of fiber content be made on the excluded items, it must conform to the Rules and the Act. Only one-time-use nonwovens are again excepted.

Further exemptions under Section 12 of the Act itself are: upholstery stuffing (if not reused); outer coverings of furniture, mattresses, and box springs, linings, interlinings, fillings, and padding (if structural and not for warmth); stiffenings, trimmings, facings, or interfacing; backings of or paddings used under floor coverings; sewing and handicraft threads; bandages, surgical dressings, and other textile-fiber products now under the Federal Food, Drug, and Cosmetic Act; waste material not intended for use in a textile product; textile-fiber products in shoes, overshoes, and other outer footwear; fiber products in headwear, handbags, luggage, brushes, lamp shades, toys, catamenial devices, adhesive tapes and sheets, impregnated cleaning cloths, or diapers.

What the Label Must Carry

The Act provides that a product is misbranded if it is falsely or deceptively labeled or lacks statement of constituent fiber or fibers by percentages of weight and by generic names in order of prominence. Fiber or fibers present as 5% or less of total content shall be designated only as "other fiber" or "other fibers."

The manufacturer is allowed a plus or minus tolerance of 3% of the total fiber weight in his statement of fiber percentages. The Rules prescribe that required information on labels shall be in English, though it may appear in another language in addition. Foreign-language advertisements without equivalent English may appear in the foreign press, but such advertising shall in all other respects comply with the Rules.

In disclosing the required information, words and terms shall not be designated by ditto marks, or appear in footnotes referred to by asterisks or other symbols, or be abbreviated except for minor abbreviations of names of foreign countries.

It is also required that the name used on labels be the name under which the person is doing business, or his registered trademark if such registration has been filed with FTC, or his registered identification number in lieu of the required name.

A fiber trademark may be used only with the generic name in lettering of equal size. No trademark or generic name shall be used deceptively. All required information shall be conspicuously set forth on the label, and all parts of the fiber-content data shall appear in type or lettering of equal size and conspicuousness.

Generic Names For Man-Made Fibers

FTC has established 16 approved generic names for man-made fibers (in Rule 7), together with definitions including chemical symbols where symbols are helpful to clarify the definitions. These generic names and briefly summarized definitions are:

Acrylic—at least 85% by weight of acrylonitrile units.

Modacrylic—at least 35% but less than 85% acrylonitrile units.

Polyester—at least 85% an ester of dihydric alcohol and terephthalic acid.

Rayon—regenerated cellulose and regenerated cellulose with substituents replacing not more than 15% of the hydrogens of the hydroxyl groups.

Acetate—cellulose acetate. Where not less than 92% of the hydroxyl groups are acetylated, the term "triacetate" may be used.

Saran—at least 80% vinylidene-chloride units.

Azlon—any regenerated naturally occurring protein.

Nytril—at least 85% long-chain polymer of vinylidene dinitrile where the content is no less than every other unit in the polymer chain.

Nylon—any long-chain synthetic polyamide with recurring amide groups in the chain.

Rubber—natural or synthetic rubber.

Spandex—at least 85% segmented polyurethane.

Vinal—at least 50% vinyl-alcohol units in which their total plus any one or more of acetal units is at least 85%.

Olefin—at least 85% ethylene, propylene, or other olefin unit.

Vinyon—at least 85% vinyl-chloride units.

Metallic—of metal, plastic-coated metal, metal-coated plastic, or a core completely covered by metal.

Glass—of glass.

Natural Fibers

Where wool is used in excess of 5%, such fiber shall be disclosed as wool, reprocessed wool, or reused wool as the case may be.

Other natural fibers shall be disclosed by their accepted generic names, such as cotton, silk, linen, etc., although not listed in detail in the Rules.

Where the hair or fiber of a fur-bearing animal is present in excess of 5%, the name of that animal may be used in conjunction with the words "fiber," "hair," or "blend." The term "fur fiber" may be used to describe the hair, fur, or mixtures thereof of any animal except the sheep, lamb, Angora goat, Cashmere goat, camel, alpaca, llama, or vicuna.

Coined words phonetically similar to the name of a fur-bearing animal are prohibited. Nondeceptive use of animal names—such as "kitten soft," "Bear Brand," etc.—is not prohibited.

Cross-Linked Fibers

The generic names for man-made fibers was a special target at the March hearings for fiber manufacturers who had their own brand names for the relatively new cross-linked fibers and who desired to establish a new generic term, "lincron," to be used without reference to "rayon." This position was unacceptable to FTC.

However, nondeceptive terms truthfully descriptive of a fiber may be used in conjunction with the generic name (Rule 16 (d), as *cross-linked* rayon, *solution-dyed* acetate, *combed* cotton, nylon *6,6*, etc.

The "lincron" fight may go on, since FTC has provided procedures in Rule 8 for establishing a generic name for a fiber on written application by a manufacturer or producer. The application may be denied or approved.

Ornamentation Material

Fiber ornamentation on a textile product consisting of less than 5% may be overlooked if the required fiber data for the basic fabric is fol-

CONTINUED ON PAGE 154

Blending and Carding Highlight Cotton Research Clinic

- The 1959 Cotton Research Clinic, sponsored by the National Cotton Council, was held this year at Asheville, N. C.
- Sixteen papers were presented on blending, flatless carding, combing, and fiber testing. Reports in these pages chiefly cover massive preblending, flatless carding, and combing.
- Other papers will be reviewed in the August issue of TEXTILE WORLD.

Granular Card Operates Without Revolving Flats

- A carding mechanism that replaces conventional revolving flats has been developed by the USDA Southern Regional Research Laboratory and is now in commercial production. The attachment makes possible "granular" carding, the first radical change in carding for nearly 200 years.

By **A. S. MILLER and R. S. BROWN**, Southern Regional Research Laboratory

Development and evaluation of the granular card have now progressed to a point where it is believed that appreciable savings in spinnable fiber can be realized while quality is maintained under most operating conditions.

The three main sources of waste at a conventional carding machine are the flat strips, the cylinder strips, and the motes and fly. Flat strips comprise about 50% of the total; the granular card produces no flat strips. Other advantages are:

1. From 2 to 4% less waste
2. Lower repair cost and fewer parts
3. About 800 lbs. less weight
4. About 100 w. less power needed
5. Elimination of dust
6. Less cleaning

The attachment consists of an aluminum-oxide granular carding surface opposed to the surface of the main cylinder and a relatively small metallic-clothed roll above the lickerin to preopen the tufts before carding.

The aluminum-oxide carding surface is fixed and rigid; it cards without loading and requires no attention during normal operation. The simplicity of the apparatus is evident in the smooth finish and lack of moving parts.

Recommended but not required is a modified lickerin and feed-roll cover that improves the cleaning action of the mote knives through a reduction in the air pressure above the lickerin.

The largest single part of the apparatus is the granular top plate. There are four per machine, all identical and symmetrical end for end. The plate is structurally so stable and rigidly mounted that settings of 0.005 in. are recommended and can be easily maintained. The quality of the sliver improves with the closeness of the setting.

Coated Fabric Is Used

The granular surface on the plate is a coated fabric material with a pressure-sensitive back known as PSA 3-M-Ite material. As a carding surface, this material has the very desirable quality of not loading with fibers and it requires no cleaning or attention whatsoever.

When the material becomes worn, it is removed from the plate by lifting one corner with a knife blade and pulling it off. The plate is left clean and ready for another application of granular material.

The plates are mounted on side brackets designed to permit rapid adjustment. Removal and replacement of the plates can be made without disturbing the setting.

The small metallic roll above the lickerin, which is referred to as a preopener roll because of its function in opening the tufts prior to carding, is not new in principle. It is the equivalent of a worker roll of the many combinations in use today.

The roll is mounted in a bracket that provides a screw adjustment for up-and-down and in-and-out motion. The brackets are made so that the roll can be readily lifted out and replaced without resetting. The normal setting of the roll is 0.007 in. to the cylinder and 0.010 in. to the lickerin.

The roll can function in either direction of rotation. When the adjacent surfaces of the roll and cylinder move in the same direction, the roll will not load. But when the surfaces

move in opposite directions, the roll will accumulate fibers between the teeth of the wire. It is recommended at this time that the roll be operated with its surface turning in the same direction as the cylinder. Recommended speed for the roll is 35 rpm.

Lickerin Delivers Strips

Carding action is provided by the teeth of the roll opposing those of the cylinder. The strips accumulated by the roll are delivered back through the feed by the lickerin, which provides some additional cleaning. These strips normally are approximately 20% of the cotton processed.

The low-pressure lickerin cover is recommended to reduce fiber loss and improve cleaning below the lickerin. The granular-card apparatus by seal-

CONTINUED ON PAGE 156

Avondale Tests Show SRRL Card Reduces Waste

• Operation of the experimental flatless card in two mills, a sales-yarn plant and a coarse-colored-yarn weaving mill, indicate that significant savings are possible in the elimination of flat strips and reduced maintenance costs.

By G. P. GALLOWAY, Avondale Mills

Tests were run on the SRRL flatless card at two Avondale Mills of Alabama plants.

In both instances, the SRRL card produced substantially less waste, primarily because of the elimination of card strips. Settings and speeds varied considerably between the SRRL and conventional cards.

Central Plant, one of the mills selected for the test, spins sales yarn from 1 1/16-in. SM cotton. Cards have conventional clothing.

The other mill, Eva Jane, weaves coarse yarns made from a considerably lower grade of cotton. Cards have metallic clothing. Processing and yarn data are shown below.

Test 1—Central Plant

	SRRL card	Conventional card
Flat strips	.....%	2.822%
Cylinder strips	0.810%	0.729%
Doffer strips	0.161%	0.138%
Motes and fly	1.721%	1.253%
Total waste	2.692%	4.942%
Card-sliver variation	2.8%	2.9%
Neps (per 100 sq. ins. of web)	9.2	10.3
Card-sliver weight	50.2 grains	50.5 grains
Drawing-sliver variation	4.0%	3.8%
Hank count	1.98	2.03
Roving variation	7.5%	7.5%
Yarn strength		
(skein)	67 lbs.	68 lbs.
(single strand)	0.48 lbs.	0.51 lbs.
Average yarn number	31.6s	30.3s
Yarn break factor	2,117	2,060
Yarn elongation	5.5%	6.3%
Yarn variation	15.4%	15.9%
Yarn-appearance grade	B−	B+

RESULTS are the average of 10 tests run on a blend of 10 bales of commercial 1 1/16-in. SM cotton. Micronaire value averaged 4.16, neps 17.7, and lint delivered 97.4%. All variation figures are Uster measurements.

Test 2 — Eva Jane Mills

	SRRL card		Conventional card	
	Test A	Test B	Test A	Test B
Card sliver delivered	97.9%	97.8%	96.8%	96.6%
Motes and fly	1.81%	1.75%	1.57%	1.47%
Sweeps	0.17%	0.27%	0.23%	0.28%
Flat strips	.....	.....	1.23%	1.23%
Invisible loss	0.12%	0.08%	0.12%	0.36%
Visible & invisible loss (Shirley)	1.6%		1.2%	
Neps (per 100 sq. ins. of web)	30.9		29.3	
Card-sliver weight	57.8 grains		59.5 grains	
Card-sliver variation	2.76%		2.14%	
Drawing-sliver variation	2.27%		2.13%	
Roving variation	6.6%		6.5%	
Hank count	0.69		0.68	
Average yarn number	14.2s		14.5s	
Yarn strength (skein)	138 lbs.		131 lbs.	
Break factor	1,960		1,900	
Yarn variation	16%		16%	

RESULTS are the average of 20 tests run on a blend of 10 bales of 1-in SLBM cotton. Micronaire value averaged 3.83, strength index 6.9, neps 36, and lint delivered 95.7%. All variation figures are Uster measurements.

Massive Cotton Blending Reduces Fiber Variation

• American Thread Co. uses a 9,000-sq.-ft. preblending room and special equipment to mix a large number of bales before the cotton enters the regular processing line. Results are fewer ends down, better cleaning, elimination of color problems, and fewer rejects.

By **DAVID E. HOWE and JOE F. MATTISON,** American Thread Co.

Cotton's most challenging characteristic is its wild variability. There are two solutions to this problem:

1. Mix according to specified design based on extensive testing.
2. Blend vast quantities of cotton to level out these variables.

At two of our mills, we have a massive preblending program in addition to testing and specification buying. Results are far more satisfactory than before. We still maintain the strictest possible controls over buying, classing, testing, and mixing; but we also open 100 bales from various shippers' lots, which we blend, rebale, and process according to our usual practices in the opening room.

This practice has yielded a spectacular reduction in variable color of yarn; uniformity of fiber fineness is twice as good as before; ends down at spinning are appreciably lower and less variable; neppiness is lower and more stable; clearer waste has been reduced 5 to 10%; and yarn strength shows less variation than before.

Before establishing this preblending program, we recognized these variables in cotton as had everyone else; and we had only partly overcome them by careful selection of opening-room mixes. We still had trouble with color and other physical characteristics caused by:

1. Differences in bales within a given shipment
2. Differences between shipments
3. Differences in grades or varieties within a mix
4. Differences from one crop to the next

Color Variation Is Reduced

We preblend whatever cottons we buy according to Micronaire value, color, and across grades in certain instances. More important, we blend across various shippers' lots to maintain the greatest continuity of mix and to minimize abrupt raw-stock changes. And we blend very carefully from one crop year to the next.

We first approached the blending problem by doubling and then tripling the number of bales in the opening room, which appeared to be the most economical and flexible scheme. This practice reduced color variation but did not correct it. We then opened, blended, and rebaled several lots of 100 bales each and followed these through the mill. There was a spectacular reduction in color variation. This was the final test for us; we then went ahead with our present setup.

Our new layout has approximately 9,000 sq. ft. of floor space. Ten new G-10 blending feeders are lined up back to back, five to each side. One hundred bales are laid down, 50 on each side of the room. A feed table conveys the stock to an inclined apron that feeds an overhead rake distributor. The rake distributes cotton to six F-5 hoppers that dump onto another feed table leading to an inclined apron that loads a double-box bale press.

In feeding the blenders, our operator first makes a multibale sandwich that is fed to five feeders on one side; then the five other feeders are loaded from bales on the opposite side of the room.

There is no cleaning equipment whatever in this line at any point, and the cotton receives an absolute minimum of handling. The blending feeders merely tumble the cotton onto the apron and strip it off with a Sargent comb.

We installed an automatic stop motion to stop the entire line if the rake distributor finds that all the F-5 hoppers are full. Consequently, we do not recycle our stock. The press operates on a 7-min. schedule that is timed for convenient handling.

Since we found our greatest variation to be between lots of 100 bales rather than within lots, we designed our 100-bale blends to contain a minimum of four distinct lots because each lot might represent a different farm or territory. We maintain at least three lots in the warehouse, with 25 bales in one lot and 50 and 75 bales in the others.

When a new lot of 100 bales arrives, we pull 25 bales from each of the four in order to maintain our imbalanced stock of original bales. Preblended bales are weighed, tagged, and stored for later use in the opening room, where we mix 20 to 40 bales and again draw on a minimum of four preblended lots.

The minimum quantity of cotton in the opening room is 700 bales, from which we conceivably could draw our 20- to 40-bale mix from the four rebaled lots representing seven shippers' lots.

Fineness Is Easy To Check

Since fiber fineness is one of the easiest as well as one of the most important properties to check, we made a study of variation in fineness within our picker laps. The study showed that we had halved our Micronaire CV at the pickers. CV dropped from 4.49 to 2.45%, based on a comparison of 100 laps of unblended stock and 100 laps of preblended cotton (CV here refers to Micronaire readings, not yard-to-yard uniformity). Fibers suffered no damage from this gentle opening, and tests revealed no loss in fiber length. Combers did not show any extra short staple, ends down at spinning actually decreased, and clearer waste was 7% less. This study is based on spinning 30s yarn for 112 hrs., where we creeled in roving from blended stock on one side and unblended on the other.

Smaller tufts and uniform density resulted in more-uniform feed from

CONTINUED ON PAGE 156

NCS Comber Settings Reduce Noils 2.6%

• A one-year combing study just completed in conjunction with 10 cooperating mills indicates that noils can be reduced substantially without impairing yarn quality by modifying comber settings.

By J. F. BOGDAN, HENRY K. C. WOO, and C. H. PAN,
School of Textiles, North Carolina State College

Results of NCS Comber Settings Versus Mill Settings

		Mill settings		NCS settings		
Mill	Cotton (ins.)	Noils (%)	Break factor	Noils (%)	Break factor	Savings in noils (%)
A	1 3/32 SM	15.0	2,506	11.8	2,588	3.2
A	1 3/32 SM	14.7	2,710	12.3	2,714	2.4
E	1 3/32 SLM	12.9	2,709	10.6	2,785	2.3
F	1 1/32 SM	13.7	2,259	11.0	2,280	2.7
H	1 1/16 SM	13.5	2,691	11.0	2,692	2.5
K	1 1/16 SM	14.1	2,280	10.6	2,300	3.5
K	1 1/16 SM	13.2	2,498	10.5	2,501	2.7
L	SLM & SM	14.8	2,387	13.0	2,420	1.8
					Average	2.6

NOILS were reduced 2.6% by using the settings shown in the accompanying comber organization tables.

Tests just completed show that NCS comber settings produced 2.6% fewer noils than the normal settings used by the cooperating mills. At the same time, yarn strength and appearance improved.

Many mills adjust noil percentages in an attempt to produce better years by making changes in step-gauge setting, the distance between the most-forward position of the nipper and the bottom detaching roll. But there are many other factors that should be considered. Some of these are:

Cotton—lap preparation, process, and weight

Comber speed—nips per minute and lap feed per nip

Saco-Lowell Comber Organization

Cotton	1 1/32 ins.		1 1/16 ins.		1 3/32 ins.	
NCS test	I	II	I	II	I	II
Noil (%)	11.5	11	13	10.5	14	11.5
Weight of lap (grains per yd.)	800 to 840	800 to 840	800	800	800 to 840	800 to 840
Weight delivered (grains per yd.)	59	60	59	62	60	60
Length fed per nip (ins.)	0.221	0.221	0.236	0.236	0.236	0.236
Timing						
Detaching index	¾	¾	1	1	1¼	1¼
Edfors motion index	16	16	16½	16	16	16
Settings						
Feed ratchet (teeth)	16	16	15	15	15	15
Feed-roll front to nipper-knife back with nipper closed (ins.)	0.100	0.100	0.100	0.100	0.100	0.100
Cushion plate to needle points	0.025	0.025	0.025	0.025	0.025	0.025
Cushion plate to detaching roll (step-gauge setting — ins.)	0.280	0.280	0.290	0.290	0.320	0.320
Top-comb angle (degrees)	8	8	8	8	4	4
Top comb to back of top detaching roll (ins.)	0.100	0.140	0.030	0.030	0.070	0.080
Depth of top comb (ins.)	0.025	0.025	0.010	0.010	1/16	1/16
Top comb to back of bottom detaching roll (ins.)	0.090	0.110	0.070	0.090	0.090	0.110

SETTING OF THE TOP COMB to the bottom detaching roll influenced noils and yarn strength.

Whitin Comber Organization

Cotton	1 1/16-in. SM & 1/32-in. M		1 1/16-in. SLM & SM		1 3/32-in. SLM	
NCS Test	I	II	I	II	I	II
Noil (%)	12	10 1/2	14	13	12	10 1/2
Weight of lap (grains per yd.)	725 to 800	725 to 800	725	725	725 to 800	725 to 800
Weight delivered (grains per yd.)	60	60	54	54	60	60
Length fed per nip (ins.)	0.209	0.209	0.209	0.209	0.209	0.209
Roll diameter (ins.)						
Feed roll	1	1	1	1	1	1
Bottom detaching roll	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
Top detaching roll	15/16	15/16	15/16	15/16	15/16	15/16
Timing (index wheel)						
Detaching roll forward	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2
Feed-roll ratchet click	8 3/4	8 1/4	8 3/4	8 1/4	8 3/4	8 1/4
Settings						
Feed-roll ratchet (teeth)	15	15	15	15	15	15
Feed-roll front to nipper-knife back with nipper closed (ins.)	1/8	3/8	1/8	3/8	1/8	1/4
Cushion plate to needle points (ins.)	0.034	0.034	0.034	0.034	0.034	0.034
Cushion plate to detaching roll (step-gauge setting—ins.)	1/4	1/4	1/4	1/4	1/4	1/4
Top comb to back of top detaching roll (ins.)	0.034	0.034	0.034	0.034	0.034	0.034
Depth of top comb (ins.)	Standard gauge	Standard plus 1/16 in.	Standard gauge	Standard plus 1 1/16 in.	Standard gauge	Standard plus 0.025 in.

DEEPER TOP-COMB PENETRATION and the setting of the nipper to the nipper knife improved yarn quality.

Timing—lap feed, nipper knife, detaching roll, and top comb

Settings—feed roll to nipper, nipper to detaching roll, top-comb depth, top-comb angle, top comb to bottom detaching roll, and top comb to top detaching roll.

All of these factors were taken into consideration in making this study. Also, several different kinds of comber-lap preparations were used in the tests. The preparations included:

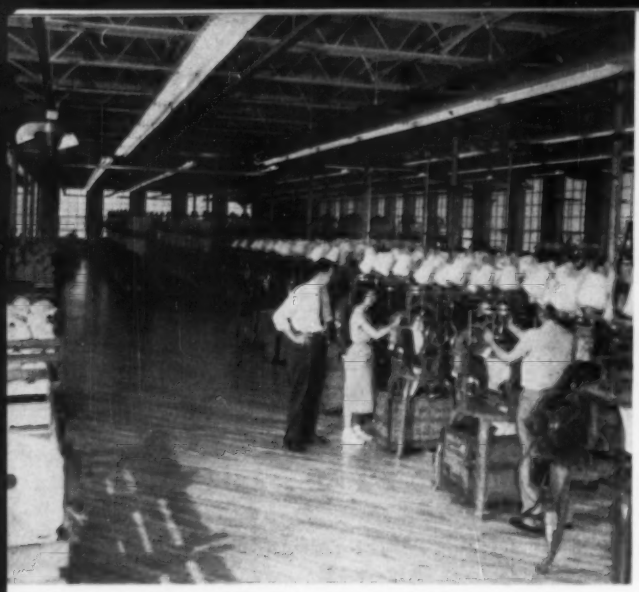
1. Yarn spun from comber sliver run through one drawing process
2. Yarn spun from comber sliver after coiler without drawing.
3. Yarn spun from individual comber-head sliver without drawing

The accompanying tables give settings and yarn data for three comber organizations recommended by N. C. State.

MILL SETTINGS used here produced 13.5% noils, compared with 11% noils for the NCS settings.

Nasmith Comber Organization

Cotton	1 1/16-in. SM	
	NCS setting	Mill setting
Noil (%)	11	13.5
Weight of lap (grains per yd.)	650	650
Weight delivered (grains per yd.)	60	60
Length fed per nip (ins.)	0.25	0.25
Timing (index wheel)		
Feeding	2 to 19	2 to 19
Detaching	2¼	1½
Settings		
Feed-ratchet pick (teeth)	5	5
Feed-roll front to nipper-knife back with nipper closed (ins.)	15/16	15/16
Cushion plate to detaching roll (step-gauge setting — ins.)	10/32	10/32
Top-comb angle (degrees)	1	8
Top comb to back of top detaching roll (ins.)	0.006	0.020
Depth of top comb (ins.)	1/16	1/16
Top comb to back of bottom detaching roll	1/16	1/16
Cushion plate to needle points (ins.)	15/16	15/16



NEW KNITTING ROOM, shown only about half completed here, has 1,900 sq. ft. of floor space. Natural light plus continuous-row fluorescent lamps give 125 ft.-cs. of illumination.

KNITTING MACHINES in the new room are of two types: rib-body machines knitting 24 courses per inch at 50 rpm., and spring-needle machines knitting 22 to 42 courses at 60 rpm.

Standard Knitting Expands

• Last year Standard Knitting Mills had the highest sales in its 59-year history, and this year sales are even higher with two large plant additions just completed. Here's what the mill is doing to establish new sales records.

TWO TOTALLY NEW MANUFACTURING DEPARTMENTS swung into full production late last month at Standard Knitting Mills, Inc., Knoxville, Tenn., to raise product sales this year well ahead of last year, which were the highest in Standard's 59-year history.

Standard's constant growth comes from several factors well scattered throughout the company: (1) veteran top-management men backed by experienced younger men, (2) constant alertness to industry and consumer changes, (3) advertising and retail-level sales promotion, (4) adequate supervision, (5) stable, well-trained employees, and (6) continuous machinery and plant modernization. Of the company's approximately 3,000 employees, 485 have been on the job more than 25 years.

Management Has a Fixed Plan

Headed by E. J. McMillan, chairman, and E. J. Ashe, president and general manager, Standard has four active vice presidents, each with experience in both sales and production.

These men are working within a fixed plan for increasing sales: reinvesting company earnings in new buildings and machinery, close quality control in a centralized operation, and a national advertising program.

New Styles Expand Old Products

Standard in 1900 was the first mill in the South to manufacture heavyweight cotton ribbed underwear. This production predominated at the mill until 1911, when union suits were made. Then came athletic shirts and shorts, followed by knitted briefs in the '30s.

Today Standard produces a broad line of knitted underwear, sportswear, and sleep wear for the family. Knitted sportswear has been a recent development, and today the company is one of the largest producers of cotton fleeced sweat shirts.

The constant modernization and expansion program has been directed so that each change gives the company more efficiency in its operation, and all new products have fallen into the class of basic everyday knit goods.

The company has stayed away from high-style or fashion items and thinks that they do not fit into the operation of the high-volume, mass-production mill.

Thermal Underwear Sells Well

Introduced in 1956, thermal-knit underwear has become one of the

FINISHING ROOM (sewing room) is entirely new. Standard's close supervisory program calls for frequent spot-checking of fabrics being made into sportswear, underwear, and sleep wear.

AUTOMATIC CONVEYOR that sorts packages for shipping or temporary storage along its 480-ft. length is being checked by Warehouse Superintendents P. W. Mankin and T. A. Underwood.

To Set New Sales Record

largest fall sales items. In early March this year, scheduled production had to be expanded because production of the initial schedule was already sold for the entire year.

At present, several hundred different styles, cuts, and colors of knit goods are being produced at the mill.

The largest factor in Standard's growth during the past 20 years is credited to the Healthknit Div. Headed by J. E. Jeter, this division has offices in New York and Chicago, plus salesmen at other locations throughout the country. Since its introduction in 1938, Healthknit has become one of the leading national brands in the knitwear field.

Advertising Is the Big Payoff

A consumer-advertising program scheduled a full year ahead at the Knoxville plant is designed to reach over 80% of American families. This year advertisements are centered in magazine sections of weekly newspapers, plus six monthly consumer magazines. Industrial papers are used regularly to reach retail buyers. Management is convinced present high sales are a result of this consistent advertising program backed up by extensive sales promotion.

Latest Building Program Completed

Standard's latest expansion consists of a new finishing room (sewing room), a new knitting room, and enlarged warehousing and shipping facilities.

The new finishing room has over 600 sewing machines, and over 650 employees work in this one room. According to General Manager Ashe, "This new room has every modern device so that the latest in finishing methods can be employed effectively."

The new knitting room almost doubles the fabric-production area of the plant; and when remodeling of the old knitting room is completed, Standard expects to have one of the most modern and efficient knit-cloth-production facilities in the country. The greatly increased floor space for knitting machines enables more than 400 machines to be grouped according to type, size, and gauge. There is more space around each machine for better maintenance, lighting, cloth handling, and cleaning.

The new knitting room has overhead cleaners for both ceilings and machines. New three-lamp 25% upward-component lighting fixtures give 125-ft.-c. illumination.

New Conveyor Is Fully Automatic

A new fully automatic conveyor runs the full 480-ft. length of the packing and shipping department. The conveyor sorts packages for shipping or for temporary storage and removes goods from storage. It extends to the shipping platform, where shorter telescopic conveyors extend right into highway trucks.

With over 15 acres of floor space, Standard's plant is completely integrated. Bales of raw cotton are opened, carded, combed, spun, knitted, dyed, cut, and sewed.

There are two cotton mills; one concentrates predominantly on combed yarn, the other on carded yarn for heavyweight fall goods. Typical combed yarns are 15s to 30s, and carded are 6s to 20s. These two cotton mills can handle almost every size yarn used for knitting and also produce blended yarns from wool or man-made fibers. Blends are made on cotton-type machine.

Better Slashing Equipment Improves 17 Alabama Mills

At a recent meeting at Auburn, 17 mill members of the Alabama Textile Operating Executives gave results from better slashing equipment. Improvements are—

- **Teflon-coated cylinders and guide rolls**
- **Rubber-covered squeeze rolls**
- **Beam handling from warping through weaving**

EIGHT OF 17 MILLS have gone to Teflon-covered slasher cylinders. At most mills, only the cylinder nearest the size box is coated; but one mill coats the first four cylinders. Some of these mills cover the cylinders only, but others cover both cylinders and guide rolls.

Three other mills are not using Teflon on cylinders but are using it on guide rolls. Coated cylinder and guide rolls are very satisfactory.

One mill is using Teflon tape to repair worn places in Teflon-coated cylinders. The tape is very expensive, but it makes a good repair. Several mills are using the tape to repair guide rolls.

Here is how mills are using Teflon-coated cylinders and rolls for best results.

First Cylinder Has Teflon Cover

Mill A—"It is extremely important to use Teflon covering on the cylinder nearest the size box and on guide rolls to prevent sticking yarn when we run at high speed. We have been running Teflon covering on high-pressure cylinders for four years without difficulty with worn places."

Mill B—"We use Teflon-covered rolls in our gas-fired slasher ovens and have practically eliminated scale and yarn laps. Several rolls ran three years before they had to be replaced."

Mill C—"Teflon covering prevents lint and trash from sticking to rolls. We don't have any trouble with worn Teflon rolls, but Teflon on predry cylinders for dye beams becomes pitted and has to be changed once each year.

"We don't use Teflon repairs on cylinders, but we use Teflon tape on guide rolls that is satisfactory."

Mill D—"Teflon on slasher cylinders prevents yarn, size, and foreign matter from sticking to the surface."

Mill E—"Teflon keeps yarn from sticking to slasher cylinders and prevents rust on guide rolls."

Mill F—"Teflon eliminates sticking size on cylinders and guide rolls. Life of the covering is three to five years."

Mill G—"Our slashers have Teflon covers on the first four cylinders. Sticking has been eliminated, and laps do not form. We haven't had the covering long enough to keep records on maintenance. Guide rolls on old slashers eliminated laps, but they were removed when new slashers were installed."

Mill H—"We use Teflon-coated guide rolls on hot-air slashers. We remove these rolls and send them to a coating-service company when they have to be recoated; one roll lasted four years."

Mill I—"We don't use Teflon covering on slasher cylinders. Our guide rolls are covered with Teflon and give satisfactory service. They are very easy to clean and have been used six months."

Mill J—"We use Teflon-coated guide rolls on hot-air slashers."

13 of 17 Mills Use Rubber Covers

Thirteen of the 17 mills reporting on rubber-covered squeeze rolls for slashers are using rubber on one or more squeeze rolls. One other mill is experimenting with the rolls.

The buffing cycle varies by mills, but the average buffing cycle is every six months. One mill buffs every 12 weeks, and a second buffs only when a densimeter and visual check show that buffing is needed.

Methods of buffing are very similar: the roll is put in a lathe turning at slow speed, and a high-speed emery stone traverses the roll slowly to make the cut.

But one mill (Mill A) has developed a new method said to give better results.

Roll Setting Prevents Trouble

Proper care of rubber rolls was shown to be as important as repair maintenance. Size level too high in the size box causes rolls to become soft; and as a result, selvage ends run off the roll. The immersion roll should be adjusted so that the size level is in the exact center of the roll arbor.

Here is how mills use rubber-covered rolls:

Mill A—"We have been using rubber-covered squeeze rolls on all our slashers five years. We have double squeeze-roll size boxes with pneumatic lifts. Rolls weigh about 800 lbs. At speeds of 40 to 70 yds. per min., we run the rolls with 200 psi. additional pneumatic weight. Yarn is 40s.

"We have used rolls made by three different manufacturers; and until recently, we buffed each roll by the manufacturers' recommendations. But now we get better results with this method: The roll is put in a lathe and run at 750 rpm. A round-nose cutting tool takes a ⅛-in. cut at a slow traverse. Then the roll is dressed with

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At the spring meeting of Alabama TOE, Wendell Morriss, Birmingham, was elected general chairman; C. W. Brown, Shawmut, was elected vice general chairman; and Cleveland L. Adams, Auburn, was re-elected secretary & treasurer.

New executive committee members are Hugh Owens, Geneva; William Edwards, Alexander City; and Burton Case, Huntsville.

Two Alabama Weaving Mills Upgrade Fixers to Supervisors

• In a move that could start a trend, two mills at the spring meeting of Alabama TOE reported they have upgraded loomfixers to basic supervisory duties with good results. Other features of the meeting are a Unifil loom-winder installation, paper dobby indication, and shuttle and harness care.

THE MOST INTERESTING DISCUSSION of the weaving section at the spring meeting of the Alabama Textile Operating Executives at Auburn came from reports of two mills that are upgrading loomfixers to limited supervisory duties. This system has been used for several months with good results and is patterned somewhat after the old-time spinning-room section-man setup.

Executives from several other mills asked pointed questions on many phases of the system and its results. Here are the answers:

Mill A—"At our mill, we have been using a system about eight months that gives loomfixers basic supervisory duties. To date, the system is very successful.

Loomfixers Supervise Employees

"The loomfixer is in charge of weavers, batteryhands, and the oiler for his section of looms. He has the authority to reprimand any employee on his job, but he cannot directly discharge an employee.

"If there's a personality clash between a loomfixer and, say, a weaver, either can be transferred to another job if both have good production records.

"The loomfixer also is in charge of bad work on his job, and he can refuse to run a bad warp or a bad lot of filling.

"We have 681 looms (total) in three weave rooms; one second hand per shift has all three weave rooms. There are 60 employees over-all.

"This program has helped fabric quality more than weave-room production. But there are other advantages: there's better cooperation between loomfixers and weavers, and loomfixers are improved because they think they are getting ahead.

Loomfixers Can Earn More Money

"Loomfixers' highest assignment is 90 looms on X and X-2 looms, and they are on piece-rate pay. They can increase their pay by: (1) increasing production, (2) improving fabric quality, and (3) reducing loom-parts cost.

"To protect weavers under this loomfixer-supervisory setup, we don't keep a loomfixer on a job if he isn't capable of doing good work."

Mill B—"We have started a program of using loomfixers for basic supervision. Loomfixers (1) check employees on their sections and report absent employees to the second hand, (2) see that weavers inspect cloth for high quality, (3) show second-quality cloth to weavers, and (4) see that batteryhands fill batteries properly.

"In addition, loomfixers check on sweepers, oilers, cloth doffers, and other employees to see that they follow schedules and do their jobs correctly."

One Mill Has 100 Unifil Units

A second development discussed with much interest was one mill's installation of Unifil loom winders:

Mill A—"We have installed 100 Unifil loom winders on 40-in. X-2 looms running 182 ppm. All filling yarn at present is 6s, but we have run 3.75s. We calculate that 23% of the twist is taken out of the filling at the loom winder; we use a twist multiplier of 3.50.

"Filling was used directly from filling spinning before we installed Unifil. Now we use 2½-lb. Barber-Colman packages at the loom. Bobbin bunches are much better with Unifil.

"Formerly we had 12 batteryhands (four on each of three shifts) on the 100 looms. We cut out nine batteryhands and now use three of the batteryhands as Unifil creel tenders (one on each shift).

"We added a fixer for the Unifil units, and he fixes units for all three shifts in addition to other work. We have three extra winders and one extra complete unit. Second- and third-shift loomfixers replace the winder instead of making a major adjustment at trouble."

Mills Add Paper Dobby Indication

Another development that's taking hold in mills running patterned fabrics is paper indication for dobbies. Two mills that have these attachments gave these results:

Mill A—"We have 50 looms with paper-indicator dobbies. Paper cutting and copying is a simple job, and the cutting machine is very efficient.

"At first, we had trouble with the paper coming apart but we found the paper was faulty. We are presently using plastic samples to replace paper that indicate good results."

Mill B—"We have paper-indicator dobbies on 20 looms that are very satisfactory to date. The card-cutting machine is easy to operate, and it does a good job. Life of the paper is three to five months. But by keeping petroleum cleaners off the paper, we are extending the life."

17 Mills Check Shuttles Regularly

Shuttle maintenance, an old and common problem that can be licked only with constant checking, was discussed at greater length than any other weaving problem. All 17 mills represented at TOE have regular schedules for shuttle checking. Here are typical answers from seven mills:

Mill A—"Each loomfixer checks one-third of the shuttles on his section each week for: (1) loose screws, (2) rough shuttles, and (3) correct bobbin alignment.

"If a shuttle shows appreciable wear, the loomfixer aligns the reed. The assistant foreman checks reed alignment before he writes an order for a new shuttle.

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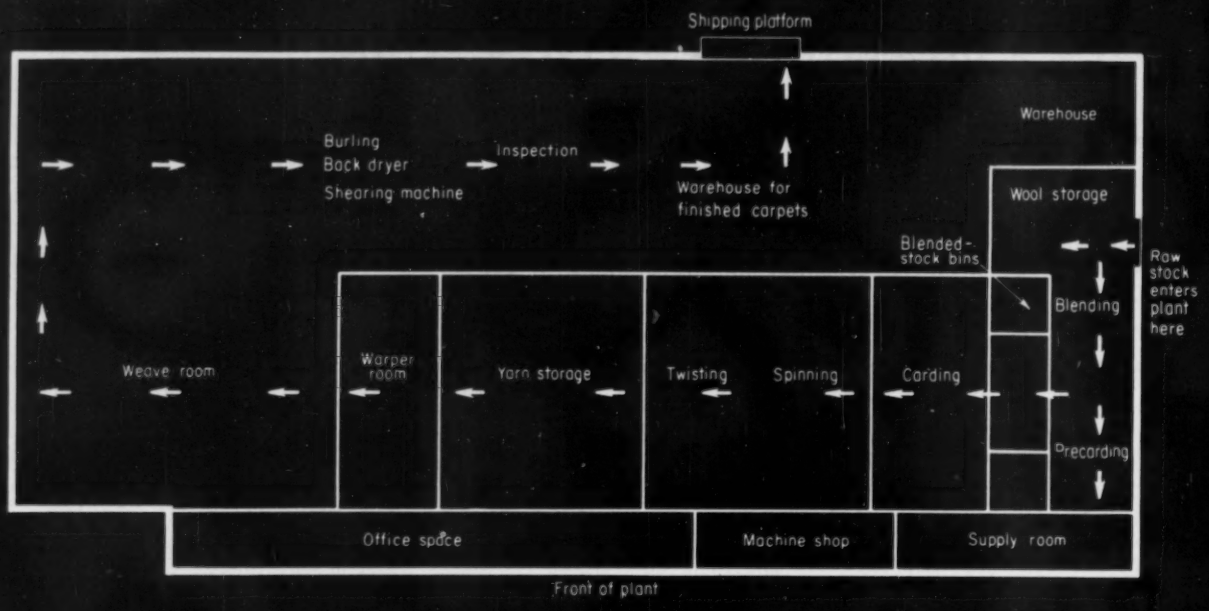
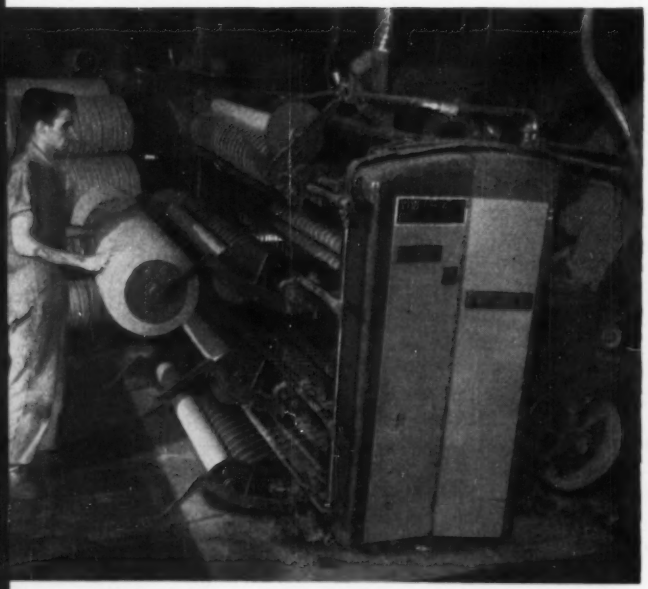
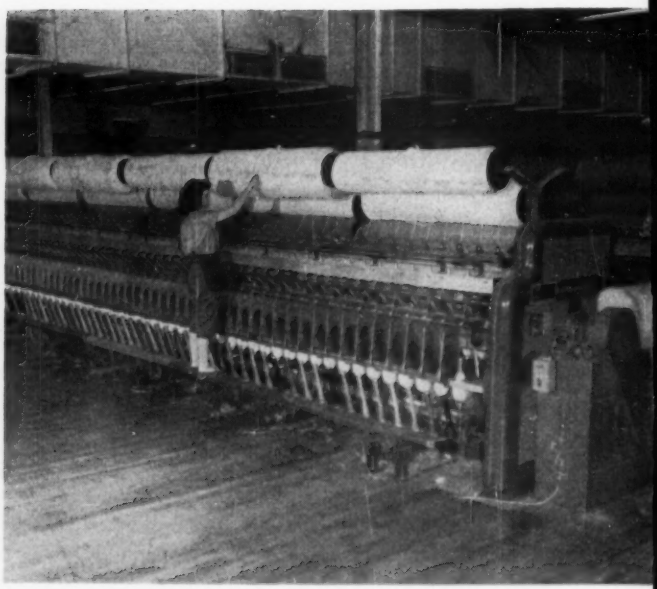


MATERIAL FLOW through the U-shape layout does little backtracking in this single-story building. Receiving and shipping are from the same road.

Modern Woven-Carpet Mill



CARDING is eight lines and includes feeder, opener-breaker, and finisher breaker. Over-all production is 100 lbs. per hr.



SPINNING is 12 frames of 120 spindles each. Yarn numbers are 100s to 150s (1 to 1½ run). Front-roll speed is 187 rpm.

Reaches Peak Efficiency

• Woven-carpet manufacturers are building new plants and improving manufacturing methods to hold markets already cut into heavily and further threatened by tufting. Here's how Karagheusian has reached top efficiency in a new carpet-weaving mill.

LAST MONTH WAS A SIGNIFICANT TIME for A. & M. Karagheusion, Inc., when it held employee-appreciation day for reaching peak efficiency in its new mill at Aberdeen, N. C. At that time, Karagheusian had overcome most problems in relocating equipment and training new employees in a fully integrated velvet-carpet-weaving mill.

Karagheusian's new mill is a prototype of modern carpet-weaving mills springing up over North and South Carolina recently, including Mohasco, Liberty, S. C. [TEXTILE WORLD, Jan. '56, p. 104]; Bigelow Sanford, Landrum, S. C.; and Firth Carpet, Laurens, S. C.

Although tufted carpets moved ahead of woven carpets when they captured 53% of the over-all carpet market in 1957, velvet weaving is constantly expanding in both plant buildings and output.

Karagheusian Plant Manager J. Cecil Beith defines carpet-production trends by saying, "There's presently a good market for better grades of carpets. Tufting has gained a good share of the market, and tufted carpets have their own definite market.

"Jacquard and axminster carpets have lost much of their market.

"But velvet weaving is becoming more important every day. Despite occasional setbacks, the outlook for woven carpets is bright. A period of expanding business and higher profits is coming from better manufacturing methods and sound merchandising practices."

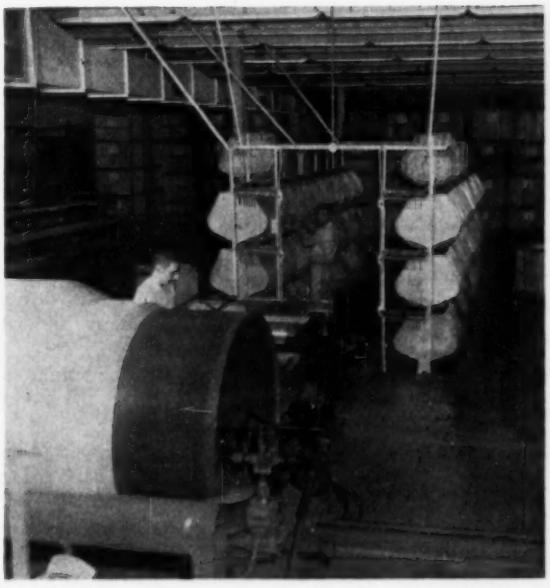
Company Has Old-Time Know-How

Karagheusian is no newcomer in merchandising, in carpet manufacturing, and in operating a mill in the South. Its merchandising history goes back to 1897 in Manchester, England. Following this successful venture, the company began making carpets at Freehold, N. J., in 1903. Then came its woolen-spinning mill in Roselle Park, N. J., in 1923.

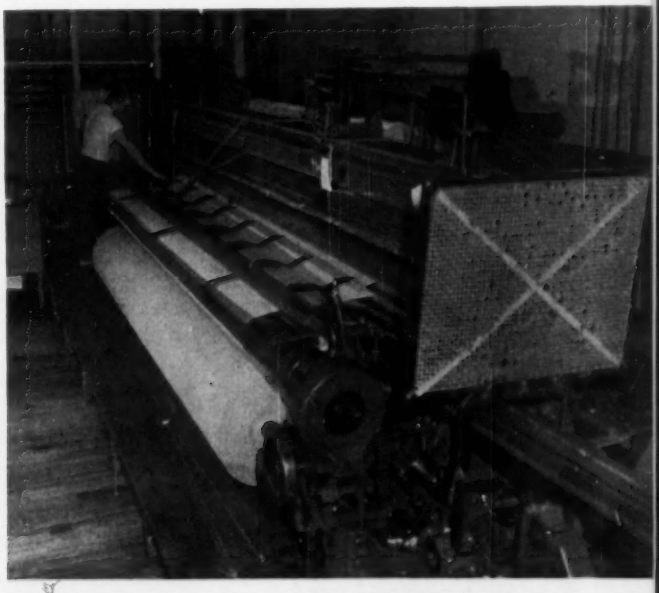
In 1925, it went overseas again, this time to Tientsin, China, where it set up a modern spinning mill to make yarns for carpets woven on hand looms operated by more than 4,000 weavers.

Shortly after Pearl Harbor, these plants were seized by the Japanese. Now they are in the hands of Chinese Communists and have necessarily been abandoned by Karagheusian.

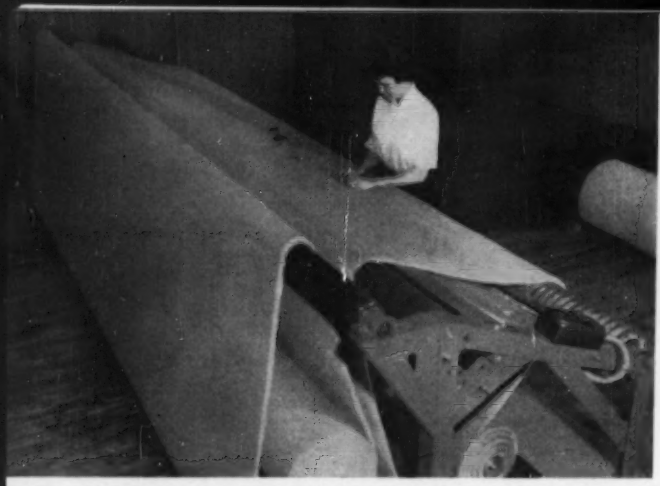
In 1952, Karagheusian started a tufted-carpet mill in



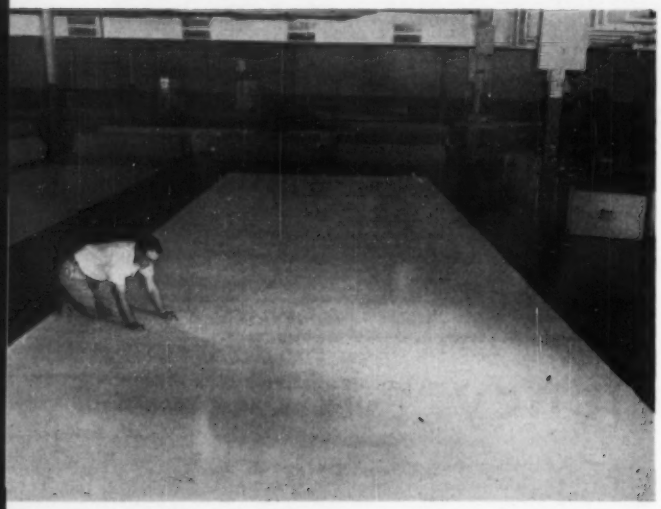
SECTIONAL BEAMER makes warps up to 12 ft. wide. Usually 72 to 84 ends are creeled, and warps have up to 1,344 ends.



LOOMS are 27 ins., and 9, 12, 15, and 18 ft. wide; speed is 110 ppm. on 27-in. looms and 29 to 56 ppm. on wide looms.

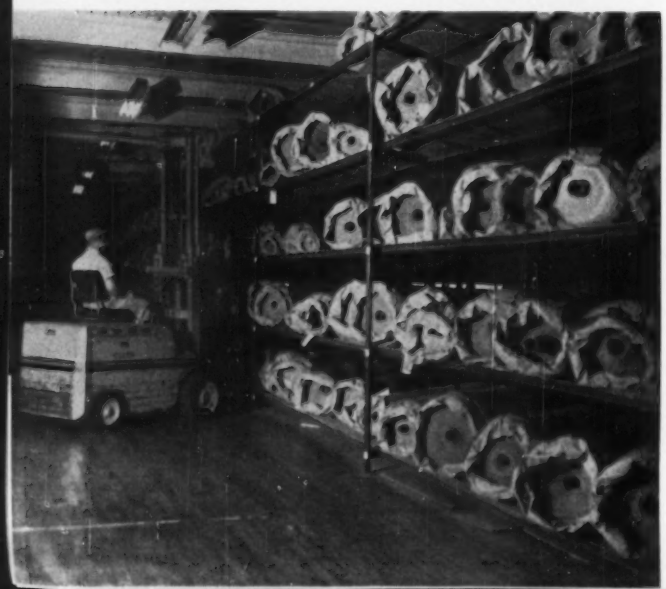


BURLING is combined with first inspection. The machine is designed so that both the face and back of carpets are exposed for burling.



FINISHED INSPECTION is the final step in the manufacturing area. This beige-colored 18-ft.-wide carpet is ready for packaging.

ALL-STEEL RACKS in the warehouse hold packed carpets at a 20° angle at six levels for easy removal with fork lift trucks.



Albany, Ga.; and expansion at the plant has been constant since that time [TEXTILE WORLD, Dec. '56, p. 76].

Karagheusian bought its relatively new single-story mill building at Aberdeen from Amerotron Corp. recently. The mill was formerly equipped with broad looms primarily for weaving blends of man-made fibers. All former production machines were removed.

Karagheusian started with an empty, completely air-conditioned, well-lighted modern plant. The plant meets all engineering specifications for a fully integrated mill.

Material Flow Is U-Shape

By starting from scratch, Karagheusian was able to lay out equipment in the rectangular-shaped 250,000-sq. ft. building to perfect U-shape. Material flow backtracks in only one instance and for only a few feet.

Raw wool stock for the Aberdeen plant is scoured and dyed in Karagheusian's New Jersey Div. At Aberdeen, these bales of stock are run through blender-feeders, a precarder, and a vortex oiler. Then the stock is fed into one of four concrete bins, each with a capacity of 25,000 lbs.

The next two manufacturing areas are conventional wool carding and spinning. Spinning packages of a little less than 1 lb. each are wound to 4-lb. packages for twisters. Two-pound packages are doffed at the twisters in two to four plies.

Yarn Cones Weigh 10 Lbs.

The twisted yarn is rewound a second time, this time to cones at 8 to 10 lbs.

Wool warp yarns are beamed on sectional warpers.

Jute and cotton yarns for stuffer and chain warps are received at the mill on section beams, which are slashed with a starch-base formula on a 15-cylinder slasher.

Loom beams are 30 ins. in diameter and hold 2,300 lb. of wool yarns for carpet face, 850 lbs. of cotton, and 1,700 lbs. of jute.

Filling yarn is wound on cops 6 ins. to 15 ins. long. Large cops hold 8 oz. of yarn. The wound cops are impregnated with a natural-color starch compound in a pressure-dyeing machine. Then they are stored at high relative humidity in a concrete conditioning room until they are needed at looms.

18-Ft. Carpets Are Woven

Fabric is woven 27 ins. to 18 ft. wide. As in all velvet-carpet weaving, looms have three beams for face, stuffer, and chain yarns.

Karagheusian is sticking pretty closely with all-wool carpets. Only one blended carpet, 70% wool and 30% nylon, is made.

In open-line contract carpets, eight qualities are woven and each quality has 6 to 14 colors. Patterns are cut pile, plain-loop pile, or irregular-loop pile.

Looms are at the opposite end of the building from where yarn is received, and carpets doffed at the looms start moving toward the entrance again.

After being woven, carpets are burled and inspected on machines. Then the backs are given a steam back sizing or latex coating. After being dried, they are sheared. Then they are given final inspection, are baled, and are shipped or stored in the warehouse within the plant.

The entire mill except the warehouse is air conditioned. and is held at 70 to 75° F. and 65 to 68% r. h.

Georgia Carders Praise Big Laps and Fast Drawing

Mills representing over 12-million spindles answered questions on carding problems at the spring meeting of the Textile Operating Executives of Georgia held at Georgia Institute of Technology, Atlanta, Ga. Subjects covered include—

- **Opening and cleaning**
- **High-compression picker rolls**
- **High-speed drawing**
- **Large-package roving**

OPENING AND CLEANING

Mills unanimously reported good results with the SRRL opener. Most of them said that fewer spinnable fibers are removed and nep count is not affected.

Mill O—"Cotton is opened and blended more efficiently than with regular equipment, and the amount of spinnable fiber removed is negligible. We process up to 2,775 lbs. per hr. and get best results at 85% running time. The machine is located between the blending feeders and Buckley beaters. We run low-grade cotton and strips."

Mill P—"The SRRL opener does a thorough job of blending and opening the stock into a fluffy condition that makes cleaning easy. Spinnable fiber removed is negligible.

"Our pickers require 1,200 lbs. per hr. each. To supply them, the SRRL opener runs continuously with the feeders operating at 82% running time. Setting between the saws is 0.068 in. We use ⅞- to 1-in. SLM cotton."

Mill U—"We get good opening and blending with the SRRL opener. Spinnable fibers removed from cleaning-section waste is 29.4%; yarn strength is approximately the same; and there is no noticeable change in nep count for short-staple fibers.

"The cleaner is located between the Superior and the No. 11 condenser. Conventional settings are used, and we like to run our opening line at about 90% running time. Our stock is ⅞-in. Mltsp."

Improved opening layouts, processing data, and operating results were given by five mills. Most of them said that they pay close attention to the Micronaire value of the cotton fed and that nep count and breaking strength are better.

Mill P—"We have two lines of opening equipment; each consists of six F-5 feeders with preopener and cleaner, No. 11 screen section, SRRL opener, a condenser, a pipe line to the picker room, a condenser in the picker room, and a gyrator and rake condenser that feeds seven pickers.

"We feed from 24 bales at each mix; cotton staple ranges from ⅞ to 1 in. and grades are mostly SLM. Micronaire reading is 3.75 for one mix and 4.0 for all the others.

"Because of the size of this department, we have not been able to change our maintenance work assignments; but we have lowered the grade of cotton in some instances."

Mill R—"Our opening department has two lines of machinery, each of which has four F-7 feeders, two Superior cleaners in tandem, one Axi-Flo cleaner, and one No. 11 dust-and-leaf extractor. Waste removed at each cleaner is:

Hopper drawer	0.07%
Superior cleaner	0.47
Superior cleaner	0.34
Axi-Flo	1.08
No. 11 condenser	0.07
Total	2.03

"Installation of these machines did not affect job assignments, and there is no appreciable difference in nep count or yarn breaking strength."

Mill T—"Our opening-room layout and percent of waste removed per machine is:

Machine	Waste removed
Blending feeder	0.47%
Gyrator	0.24
No. 11 condenser	0.09
No. 12 opener	0.83
No. 11 condenser	——
No. 12 opener	0.71
No. 11 condenser	——
Centri-Air cleaner	0.51
Total	2.85

"Sweeps and dirt account for 0.06% of the waste removed. We feed 20 bales of 1⅛-in. LM cotton with a Micronaire value of 3.6. Neps and breaking strength improved with this setup, but so far we have been unable to lower our grade of cotton or increase work assignments."

Mill U—"Opening-room layout and waste removed per machine is:

Machine	Waste removed
Axi-Flo	2.45%
No. 12 opener	0.43
No. 11 condenser	0.44
Superior cleaner	0.26
Centrif-Air cleaner	0.23
Total	3.81

"This arrangement permitted us to lower cotton grade. We use 13 bales of SGO cotton mixed with 2 bales of No. 1 strips. Nep count is about the same, and ends down dropped 50%. We do not Micronaire this mix."

COMPRESSION ROLLS ON PICKERS

The trend in Georgia is toward larger picker laps. Most mills have increased lap weight 10 lbs. or more. Two mills reported production of laps weighing more than 60 lbs. All the mills use air to apply compression. Only one mill (running man-made fiber) reported the use of a lap pin pusher.

Mill G—"We use air pressure and an air rack release to make a 19-in.-dia., 14-oz., 80-lb. lap with ±¾-lb.

CONTINUED ON PAGE 152

Rolls and Aprons Feature Georgia Spinning Forum

The Textile Operating Executives of Georgia recently discussed 16 spinning problems at Georgia Tech in Atlanta. Subjects covered include—

- Roll and apron cleaning
- High-speed rings and travelers
- Scavenger waste and roll chokes
- Lost ends at warping

FRONT-ROLL SPEED

None of the reporting mills said that balloon-control rings offer any advantages in increasing front-roll speed. One mill reported increased speed after installing antifriction steel bottom rolls.

Mill I—"Balloon-control rings are not practical mechanically; we had ours removed by the manufacturer."

Mill R—"We installed 3- and 3¼-in. node rings on a 4-in.-gauge spinning frame by moving the threadboard lifter rods about ½ in. to the rear. Separators were removed, and the node rings were installed on a special rail attached to a special lifter rod behind the base rail.

"We frankly see no advantage in this arrangement for spinning 5.62s and 39s. Every attempt to increase front-roll speed resulted in increased ends down."

Mill B—"We increased front-roll speed 5% and decreased ends down from 70 to 35 per thousand spindle hours by installing antifriction bottom steel rolls. Uniformity, which averages 6.5%, is better. Breaking strength increased only slightly because of a 200% increase in draft.

BUILD FOR SPOOLERS

Various methods of building packages for spoolers were described. Opinion was about equally divided between the advantages of warp and combination winds. One mill reported good results from using a six-point filling cam.

Mill J—"When we are spinning 31s yarn to be run on Barber-Colman spoolers, we get best results from warp wind. We have tried the new filling-wind cam but cannot eliminate kinks in the yarn at the warpers. No trouble has been experienced at the spooler. Spooler winding speed is 1,200 yds. per min. Balloon breakers are not used at the spooler."

Mill L—"Combination build on warp yarn gives us best results in waste, spinnability, and spooling operations. We spin 14.5s on a 2⅛-in. ring with a 10-in. traverse. Spooler runs 1,200 yds. per min. and does not have balloon breakers."

Low-Twist Yarn Gives Trouble

Mill M—"Different kinds of yarn give different results at spooling. High-twist combination-build yarns with a twist multiplier of 4.0 or more run better at speeds up to 1,200 yds. per min. Yarns with a lower twist multiplier become increasingly difficult to spool as the twist multiplier decreases and the yarn gets coarser.

"So far, we have found no filling cam that operates satisfactorily for unwinding filling at the spooler. Either winding speeds have to be reduced greatly or sloughing-off results."

Mill V—"We've had good results at spooling from using a six-point filling cam. Spoolers run 1,240 yds. per min. on 19.5s warp, 23s warp, 31s warp, and 23s filling."

SCAVENGER-WASTE CONTROL

Most of the reporting mills try to control scavenger waste by making random checks on the amount of waste in collector boxes and comparing the findings with ends down per thousand spindle hours.

Mill C—"Spinners are instructed to patrol their jobs as frequently as possible and to break back roving where tapes are off. Ends down range from 25 to 40 per thousand spindle hours for 4s to 42s, and scavenger waste is 2.65%."

Mill J—"At irregular intervals spot checks are made on spinners to determine the amount of scavenger waste in individual collector boxes. For 31s warp with 40 ends down per thousand spindle hours and 41s filling with 45 to 50 ends down per thousand spindle hours, scavenger waste averages about 2.4% of the cotton opened."

Mill V—"We weigh waste from the collector boxes each shift, which helps us determine the poorest running jobs. Waste averages about 130 lbs. per shift out of 9,600 lbs. net production. This figure means that 1.34% of our ends are down at all times if no allowance is made for room lint. Ends down average 12 to 15 per thousand spindle hours."

REVOLVING CLEARERS

Opinion was divided as to the advantages of corrugated synthetic clearer covers. Some mills reported good results; other said the covers load up and put gouts in the yarn.

Mill E—"We find that the corrugated clearer covers require less cleaning."

Mill F—"We have tried two makes of corrugated covers. One is very unsatisfactory; the other is fairly good."

Mill H—"The clearer does not load up, and it eliminates picking."

Mill J—"We experienced higher ends down and gouts in the yarn. The clearers were taken out of use."

Mill L—"We are having good results in using the covers on man-made fibers, but for cotton filling yarn the rolls need more cleaning."

Ridges Load Up

Mill R—"The ridges that run parallel with the cot load badly. We are

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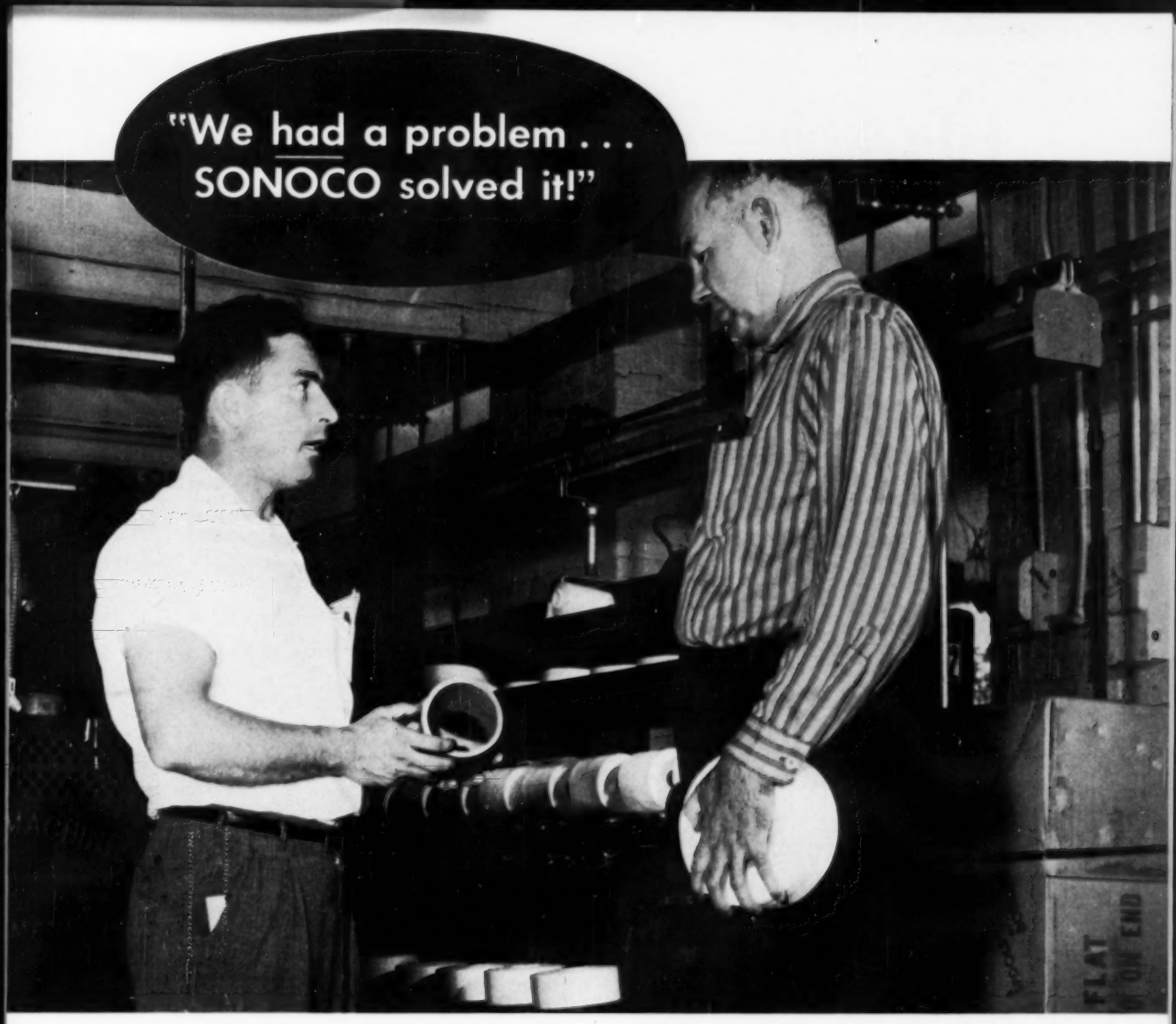

THE NEED: A one-time use draw winder tube

Expensive, returnable draw winder tubes were being used to package certain synthetic yarns. Because of the cost and the returnable feature of these tubes, it was desirable to replace them with a low cost, expendable carrier. This required the development of a new, close tolerance tube with a suitable surface finish. Furthermore, a tube sufficiently strong to permit its use with the complete range of deniers was required.

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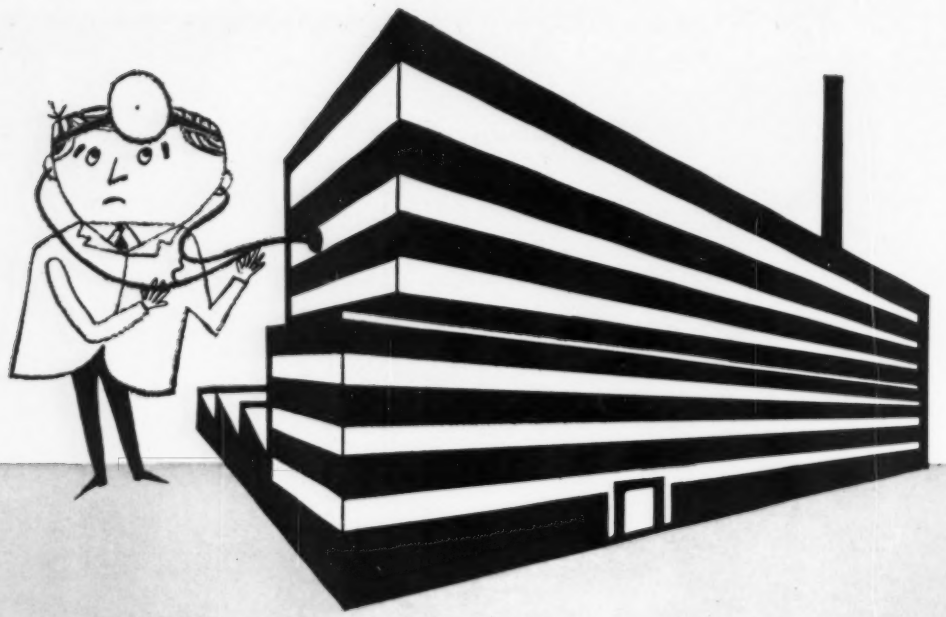
CIRCLE 59 ON READER SERVICE CARD



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Textile World

CHEMICAL TREATMENT AND FINISHING

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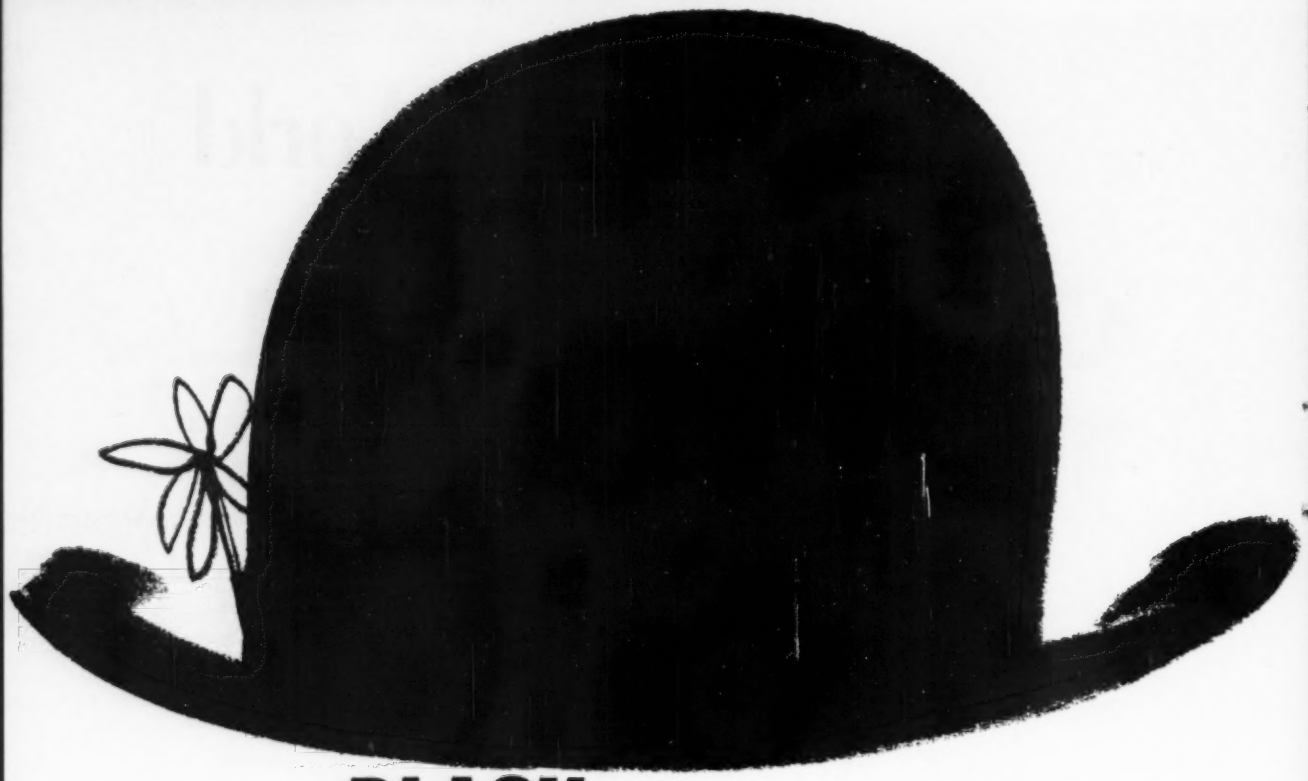

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Formaldehyde Absorption Affects Finish—

Selective absorption of free formaldehyde by cellulosic materials from resin-treating baths can very probably affect the finished product, according to a research report of the British Cotton Industry Research Association. Both rayon and cotton were found to pick up formaldehyde in the amounts of 5.5 and 2.5% respectively from formaldehyde solutions. The presence of other materials in the bath that do not react with formaldehyde seems to have little effect on the phenomenon.

The time element is important because the absorption of formaldehyde by the fibers is not instantaneous. Thus the cross-linking effects of the absorbed formaldehyde with the cellulose molecules will vary in degree according to the time of exposure.

The formaldehyde is assumed to combine with the hydroxyl groups of the cellulose to form hemiacetal groups, $O{\cdot}CH_2OH$. Up to 10% of all hydroxl groups can be affected by strong formaldehyde solutions. However, unless heat is applied, all the absorbed formaldehyde can be washed from the fiber by rinsing in water; and the slight loss of tensile strength caused by the absorption of formaldehyde is recovered.

Cobalt 60 To Be Used To Sterilize Fibers

The first use of cobalt 60 to sterilize animal fibers on a large scale will be made in Australia this year.

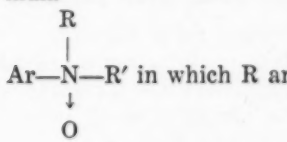
United Kingdom Research Establishment evolved the process and helped design the special processing plant. An initial shipment of 150,000 curies of cobalt 60 will be used to start the plant, which will be operated by Westminster Carpets Pty. Ltd., Dandenong, Victoria, Australia.

The process is claimed to be more efficient than existing sterilization methods and safer for workers. Consumption of cobalt 60 is expected to be large because all animal fibers that are imported into Australia must be sterilized.

Brighter Soluble-Vat Prints—

Better color value and brighter colors from solubilized vat dyes are gotten with less development time when the printing pastes include a new type of organic compound, the N-oxide of a tertiary amine.

These compounds conform to the general formula



in which R and R′ are substituted alkyl radicals such as ethyl, methyl, or hydroxyethyl groups. Ar is usually benzene.

According to British Patent 811,046 to ICI, the assistants are made by treating a tertiary amine Ar-NRR′ with hydrogen peroxide and then extracting the product with methyl or ethyl alcohol. Water solubility is easily obtained if the tertiary amine also contains a substituted carboxylic or sulfonic-acid group.

N-oxides of dimethylaniline-3-carboxylic acid and dimethylaniline-4-sulfonic acid have proved to be useful in getting better printing results.

Swell Nylon To Improve Hand—

The oily hand and high luster of heat-set nylon fabrics can be partly corrected by treating the goods in acid solutions or solutions of metal salts. The effect of these reagents can be increased if small amounts of organic solvents are included in the acid or salt treating baths.

According to a recent patent to Heberlein & Co., Switzerland, butyl or amyl alcohol, diacetone alcohol, cyclohexanone and acetaldehyde are especially effective.

A typical treatment is to pad heat-set nylon fabric through a solution containing:

455 grams hydrochloric acid
20 grams amyl alcohol
525 grams water

The goods are then rinsed and dried under tension. The fabric is less lustrous and slightly firmer after this treatment.

Nylon-swelling solutions that are prepared from salts such as calcium chloride, calcium thiocyanate, or lithium bromide should contain at least 40% salts. If zinc chloride is used, it is better to use 50 to 60% salt content.

The swelling treatment by either means, when it is accelerated by the addition of organic solvents, is also claimed to reduce pilling.

More Light on Carrier Action—

Reports from German workers corroborate theories recently developed here [TEXTILE WORLD, Mar. '59, p. 70] on how carriers help in the dyeing of polyester and polyamide fibers.

Two factors were found to govern dye diffusion into polyester fibers. One is the shape of the dye molecules in relation to the fiber intermolecular spaces—the geometrical effect—and the other is the energy effect created by the forces between dye and fiber.

Studies of the behavior of azo and anthraquinone disperse dyes applied at 100° C. without carriers showed that the energy effect is more important.

Disperse dyes diffuse more slowly into polyester fibers than into polyamide fibers; but if enough time is allowed, the polyester fibers will eventually absorb more color than either polyamide or acetate fibers.

Carriers such as benzoic acid or trichlorobenzene boost absorption rates 10 to 100 times over dyeings done without a carrier, and their effect varies with the dyes being used.

Dyes that diffuse slowly without a carrier were noted to diffuse more rapidly with a carrier than some dyes that have a more-rapid diffusion rate without a carrier. There is general agreement that to be effective a carrier should be water soluble and capable of diffusing into the fiber from the dye liquor.

Per-Acids Replace Caustic Boil—

Cotton goods carrying colored yarns, and blends of cotton with nylon can be effectively prepared for bleaching without the usual kier boil by a process recently developed by Laporte Chemicals Ltd., London, England.

In the new method, cotton fabrics or blended-fiber goods that might be sensitive to prolonged alkaline treatment are saturated in a ¼ to 1% solution of permonosulfuric acid at pH 1.1 to 1.7 at room temperature and left for several hours. The goods are then washed and may be bleached with hydrogen peroxide in the conventional way.

The per-acid treatment is claimed to remove natural impurities and sizing material better than kier boiling and does not affect dyed yarns as badly as kier boiling.

Guanidines Promote Level Dyeing—

Substituted guanidines such as sym-diphenyl-, sym-dibenzyl-, and sym-tetramethylguanidines have been found to help leveling when nylon or wool is dyed with neutral-dyeing acid dyes.

The rapid strike of these colors can be somewhat reduced by starting the dyeing with selected colors and an ammonium salt as an assistant, but this method is only partially satisfactory.

Deering-Milliken Research Corp. has patented a method for dyeing nylon with acid dyes that depends upon these substituted guanidines to control strike and promote level dyeing.

The guanidine derivatives are used in the form of a dispersion made with sulfonated castor oil and a nonionic dispersing agent such as Tergitol NPX. The dyebath is set with dye and ammonium acetate, the dispersed guanidine compound is added, and the bath is brought to the boil.

Initial pH is 7.5; after 1 hr., pH will have dropped to 6.

New Cost Study on Aminization—

Modern methods of introducing the aminoethyl group into the cellulose molecule make it possible to modify cotton in this way on normal finishing-plant equipment.

A study made by O. J. McMillan, Jr., K. M. Decossas, G. L. Drake, Jr., J. D. Guthrie, and E. F. Pollard, all of Southern Regional Research Laboratory, New Orleans, La., shows that 52-in. 80-square cotton goods can be aminized for about 6.7 to 9.1¢ per yd., or 20.4 to 27.6¢ per lb.

Aminization to the extent of adding 0.6% N to the cellulose molecule produces a highly reactive cotton that will take wool dyes readily and is capable of further modification to improve rot resistance, fire resistance, and water repellency.

Good ion-exchange properties are also added by aminization. A product containing 0.6% nitrogen has an ion-exchange equivalent of 0.5 milliequivalents per gram. Reactions with polyhydric phenols and quinones are possible, as are others with nitrosophenols, quinone imines, and quinone oximes to impart electron-exchange properties.

The cost study was based on a process that involves padding the fabric in a solution of caustic soda and 2-aminoethylsulfuric acid, followed by drying, curing, and neutralizing in conventional equipment.

All costs were based on a hypothetical plant built at present-day costs and worked by employees at prevailing wage rates.

Did You Know . . .

. . . that you can get good resin curing at relatively low temperature with mixtures of aluminum chloride and magnesium chloride? J. B. Irvine, J. K. Simons, and J. H. Davids of Quaker Chemical Products Corp. found that by using 0.2% $AlCl_3 \cdot 6H_2O$ with 7.0 $MgCl_2 \cdot 6H_2O$ as the catalyzing agent with acetal reactants, ethylene urea, and melamine resins satisfactory results can be obtained at a curing temperature of 250° F.

The injurious side effects to be expected from aluminum chloride alone are apparently inhibited by the presence of the magnesium chloride. The work indicated that from 4 to 7% of magnesium chloride is necessary to produce the buffering action and that proportions may be varied with the resin being used to get optimum results.

The combination catalyst should be of particular interest to plants that process cotton knitted fabrics, many of which are not equipped to cure at 275 to 300° F.

●

. . . that the packing down of the mass of fibers in the dyeing machine affects the tensile strength of wool that is dyed by the stock-dyeing process? Investigators have found that in many cases where dyes and chemicals were credited with fiber damage, it was the sharp bends produced in the closely packed fibers that set up strains that resulted in local weakness.

●

. . . that Japanese researchers have developed a crease-resistant finish for silk? Reports from the International Silk Congress at Munich last month indicate that the finish is based on a urea-formaldehyde resin. In addition to providing crease resistance, the resin treatment is claimed to reduce the tendency of treated fabrics to turn yellow.

●

. . . that pH is an important factor in oxidizing baths for vat prints or dyeings? If the pH is below 7, oxidation will probably be incomplete; and if it is over 9, an oxidizing bath based on peroxygen chemicals will be unstable and wasteful of oxidizing agents.

Best all-around results are obtained when the bath pH is just under 9.

NEW DYES AND CHEMICALS

Reactive Dye

Cibacron Brown 3GR . . . is the first brown dye of the reactive type to be offered. The color has excellent lightfastness, and resins do not noticeably affect either shade or lightfastness.

The dye may be applied on all types of equipment by conventional methods and is suitable for direct printing on cotton, rayon, wool, or silk with other dyes that do not require acid steaming.

Light and medium shades are dischargeable, and the shade can be built up to rich dark browns with Cibacron Black BG. Ciba Co., Inc., Route 208, Fair Lawn, N. J.

Circle D-1 on Reader Service Card

Anticrocking Agent

Low Crock OSE . . . is an oil-soluble anticrocking agent designed to be used in machine-printing operations. The product effectively controls both wet and dry crocking of blotch prints and prints in dark colors. The anticrocking agent is compatible with water-in-oil print pastes and will not reduce their body or viscosity. Eastern Color & Chemical Co., 35 Livingston St., Providence 4, R. I. **Circle D-2 on Reader Service Card**

Surfactants

Levapal . . . is a complex anionic surfactant that aids level dyeing of polyester-fiber goods. The product is used to paste the dyestuffs to be employed at a concentration of 2% of the polyester fiber to be dyed.

Tanapon X-70 . . . is designed for scouring man-made-fiber fabrics without solvents and is particularly effective in removing waxes and fatty matter. Tanatex Chemical Corp., Belleville Turnpike, Kearney, N. J. **Circle D-3 on Reader Service Card**

Azoic Colors

Neutral-Developing Azoics . . . are available in a range of 15 colors, including black, and in solution or powder form. The dyes can be completely aged in neutral steam and are suitable for printing with vat, direct, or oxidation-black dyes. Ageing in acid steam is also possible, and the colors can be aged together with fiber-reactive dyes.

The azoic colors in this range have good fastness to light and excellent fastness to washing and chlorine. Pfister Chemical Works, Inc., Ridgefield, N. J. **Circle D-4 on Reader Service Card**

Aluminum Alkoxide

Aluminum Chelate PEA-1 . . . is a derivative of aluminum isopropylate that is highly reactive with water, hydroxyl groups, nitrogen, and sulfur-containing polyalcohols. The condensation of polysiloxane polymers is accelerated by the chelate, and reactions with carboxylated glycols produce excellent hydrophobic effects on textile fibers. Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, Ohio. **Circle D-5 on Reader Service Card**

Softener

Sonowax 3450 . . . is a nonionic, antistatic, emulsified wax that is compatible with most resins and catalysts. The product works well as a softener for wash-and-wear finishes or may be used by itself. Finishes produced with Sonowax 3450 are highly resistant to yellowing, oxidation, and odor development. The wax does not contribute to chlorine retention; and when used with resins, it improves tensile strength, abrasion resistance, and crease recovery. L. Sonneborn Sons, Inc., Textile Chemicals Div., 300 Fourth Ave., New York 10, N. Y. **Circle D-6 on Reader Service Card**

Wash-and-Wear Resin

Resipon NDC . . . designed particularly for shirting fabrics produces durable crease- and shrinkage-resistant effects on all cellulosic fabrics. The resin does not retain chlorine, and fabrics heated with it are resistant to damage from bleaching and scorching.

Tensile-strength losses of treated fabrics after repeated launderings are insignificant, and crease-recovery angles remain high after 10 commercial launderings or 20 home launderings. Appearance rating is 4 in either case. Arkansas Co., P. O. Box 210, Newark, N. J. **Circle D-7 on Reader Service Card**

Stain Repellent

Scotchgard . . . brands an improved fluorochemical compound that imparts resistance to oil, water, and soil on textiles made from a variety of fibers.

Designed especially for goods that will be washed or drycleaned repeatedly, the product is durable to at least five commercial launderings and to drycleaning.

The repellent is compatible with resins and finishing materials that are in common use in the production of wash-and-wear finishes and has no deleterious effects on crease resistance, crease retention, or over-all appearance of goods that are treated with it.

The finish can be applied in a pad to cotton, wool, rayon, silk, man-made-fiber fabrics, or blends of these fibers. There is no problem of added chlorine retention, and the product is not affected by chlorine bleaching. Minnesota Mining & Mfg. Co., St. Paul, Minn. **Circle D-8 on Reader Service Card**

Hosiery Finish

V-12 . . . is a combination softener and boarding agent that imparts a dull matte finish to nylon hosiery. The product is applied in the dyebath, from which it exhausts readily. W. F. Fancourt Co., 518 S. Delaware Ave., Philadelphia, Pa. **Circle D-9 on Reader Service Card**

Polyethylene Emulsions

Ecco FM 501 and Ecco FM 511 . . . are polyethylene emulsions that are designed to improve abrasion resistance and tear strength of fabrics to which they are applied.

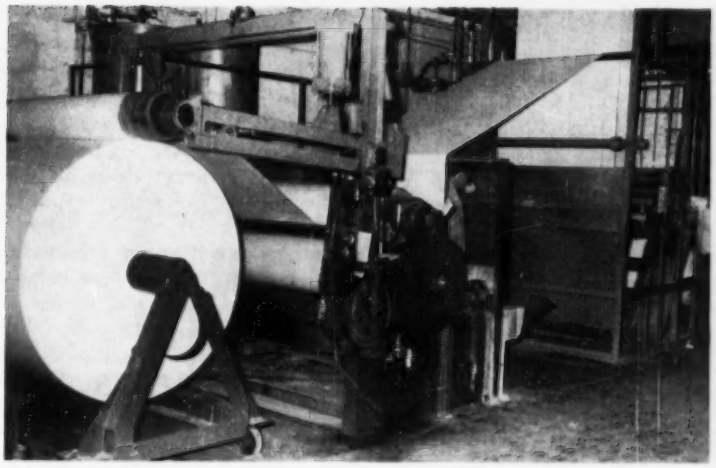
The products vary in the molecular weight of the polyethylene component and are anionic. Stability to acidic or alkaline solutions is good once the emulsions are thoroughly dispersed. Eastern Color & Chemical Co., 35 Livingston St., Providence 4, R. I. **Circle D-10 on Reader Service Card**

Cationic Softeners

Atcosoft XP . . . is designed primarily to be used as a softener for thermosetting-resin finishes. The product exhibits excellent bath stability and finishes produced with it have good resistance to yellowing from heat and do not develop unpleasant odors.

Atcosoft RO . . . is an all-purpose softener that is useful on wool, silk, nylon, Orlon, Dacron, and other man-made fibers. The material is resistant to yellowing from heat and is compatible with other finishing agents.

Both softeners can be applied by padding or exhaustion methods. Metro-Atlantic, Inc., Centredale 11 R. I. **Circle D-11 on Reader Service Card**

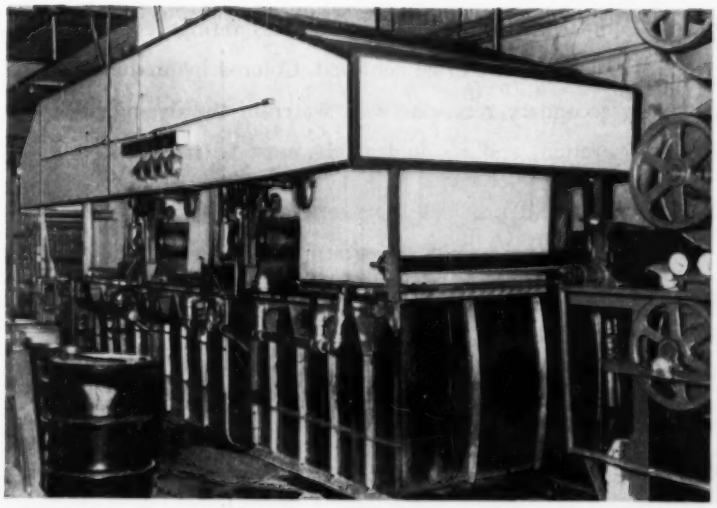


ROLLS THAT CARRY 4,000 TO 10,000 YDS. of goods according to the weight minimize losses in both fabric and time. Here is the entering end of Northern's boil-off and bleaching range.

Big-Batch Dyeing Solves Many Problems

Northern Dyeing Co., Washington, N. J., switched from jigs as primary dyeing machines to a pad-roll system. Results:

- Over-all better quality of work
- Better production
- Lower labor costs



MULTISTAGE processing of preparation is under complete control of temperature and tensions in the boil-off range. All nips are synchronized. Equipment is kept spotless and in top operating condition.

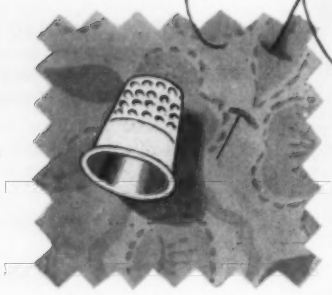
TODAY NORTHERN DYEING CO. is getting first-class results from a dyeing system that had its first trials at the plant just over two years ago. For a number of years, Northern had specialized in dyeing heavy failles and bengalines that went into outerwear.

The plant was plagued with the inherent fault of these fabrics: the wild moire that tends to develop in them when they are processed in roll form. Dye penetration into the plied cotton filling of bengalines is also generally difficult; so a better method of handling these fabrics was sought.

The answer to both problems was found in the pad-roll system of dyeing that is now the primary producer of dyed goods at the plant. Moire is eliminated because the goods are padded and put on a roll only once during the dyeing process. Penetration is better because of the dwell time in a temperature-controlled chamber.

Other Styles Are Benefited

At the present time, Northern's principal lines have shifted to outerwear and rainwear based on cotton and acetate twills, nylon and cotton mixtures, and Dacron-cotton dress goods.



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A thorough soaping of Procion dyed or printed goods is especially important if the high wetfastness ratings characteristic of these dyes are to be achieved. Colored by-products, formed by secondary reactions with water in the dyeing or printing operation, and residual alkali, must be removed.

SYNTHRAPOL SP provides thorough soaping and permits a wide choice of times and temperatures. If you are using Procion dyes, or Ahcovat or azoic dyes (Synthrapol SP is recommended for all three), you should be using SYNTHRAPOL SP. Ask for a sample and more information.

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Procion dyestuffs and the processes for their use and application to textiles are the subject of patent applications in the U.S.A.

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ICI

39-9

Northern's processing methods are based on open-width operation for most of the goods that it handles.

Now being set up is a preparing range that will brush, singe, desize, and boil off the several predominant types of goods that are based on blends of cotton with man-made fibers.

Continuity of operation is maintained as much as possible by working the lots in large rolls of 4,000 to 10,000 yds. each. Power hoists place the rolls on heavy A-frame dollies that are easily rolled into position behind the boil-off and bleaching range, dye padder, or tenters as needed.

How the Dyeing System Is Set Up

The pad-roll system of dyeing is theoretically simple, but in practice it requires very precise control and expert supervision to get consistent results.

Northern's superintendent, Robert M. Lesh, says, "We get good results by this method of dyeing only because we've gone into every detail of the operation with great care and have set up a routine for each style and shade that we follow religiously.

"We start our routine for a shade and a fabric in the laboratory. A small sample pad and a laboratory oven reproduce conditions that will obtain in the production unit. Care in preparing these sample dyeings is the key to reproducibility in the lot.

"We first pick colors that are soluble at the concentrations and temperatures involved. You can't get absorption and diffusion of color into fabric if it isn't in solution in the first place. We next determine the best padding temperature, which may vary from 120 to 160° F. for the color combination.

"Then we find out how long we must allow for the color to become completely absorbed into the fiber and which temperature is best for the dwell period. Usually we find that we must hold the goods at 185 to 212° F. for from 2 to 5 hrs., according to the shade, the fiber mixtures, and the colors involved."

Once a formula is established in the laboratory, it can be transformed into a production formula with little or no modification. Cross dyes, solid shades, or dyed-and-white effects can be produced by the method.

Big Lots Cut Costs

The bane of most jig-dyeing plants is the losses that incur from processing goods in 1,000- to 1,200-yd. lots—about average for jig batches. Not only is extra labor needed to handle many small lots; there are also very appreciable losses from off-shade jig-ends, and the chances of an exact match between lots wane as the number of rolls in a lot increases.

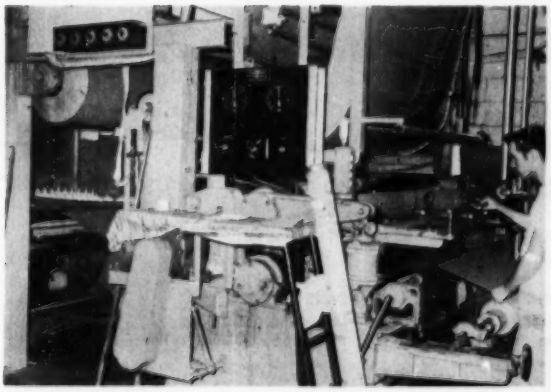
Northern has also found that its troubles with shading from side to side and light or dark selvages are eliminated in the pad-roll process. These conditions cause serious loss when they occur because of rehandling costs.

The pad-roll dwell chambers will accommodate up to 10,000-yd. rolls at one time, and production is kept practically continuous by means of three chambers.

Production of the unit is 30,000 to 40,000 yds. per 8-hr. day or more than the usual equivalent from 12 jigs in a like period. Labor requirements are about one-third of what is necessary to operate 12 jigs.

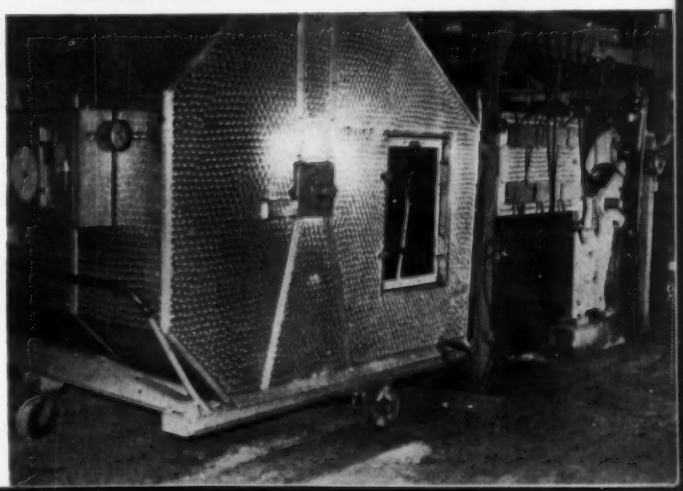
Northern has specialized for some time in durable water-repellent finishes for bengaline and faille outerwear fabrics. At this time there is heavy emphasis on Dacron-cotton blends. Northern desizes and boils off these fabrics in the open width, dries them, and rolls them into large batches in preparation for dyeing.

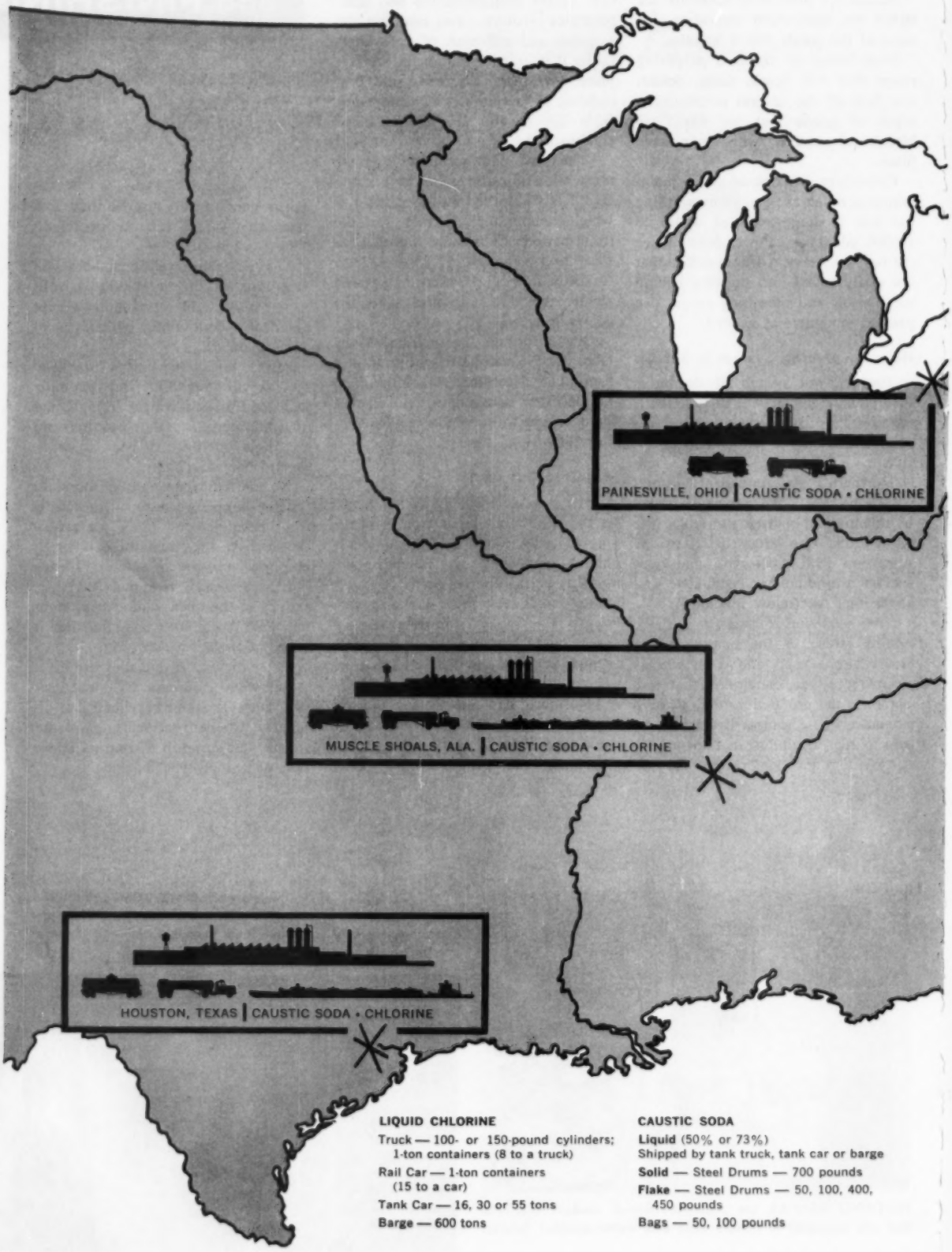
After they are dyed, they are given a cold water rinse and dried and heat-set. Durable water repellents are applied on conventional pad-tenter ranges and cured in a separate operation on a loop-type machine.



FINISHING RANGES are well-instrumented modern machines that are equipped to handle resin and water-repellent finishes.

HEART OF NORTHERN's DYEING PROCESSES is the pad-roll machine. Goods are impregnated with dye in the pad at the right and stored in a temperature- and humidity-controlled chamber until the dye is absorbed.





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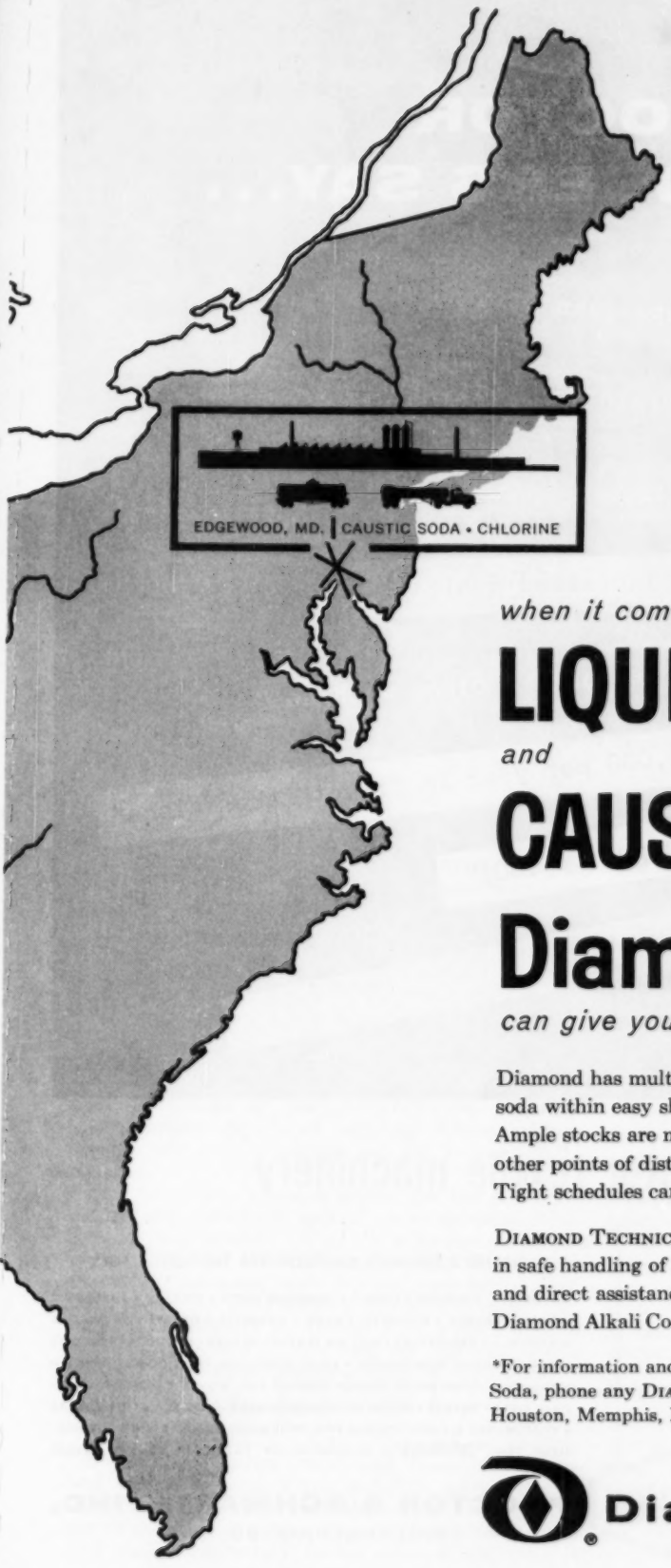

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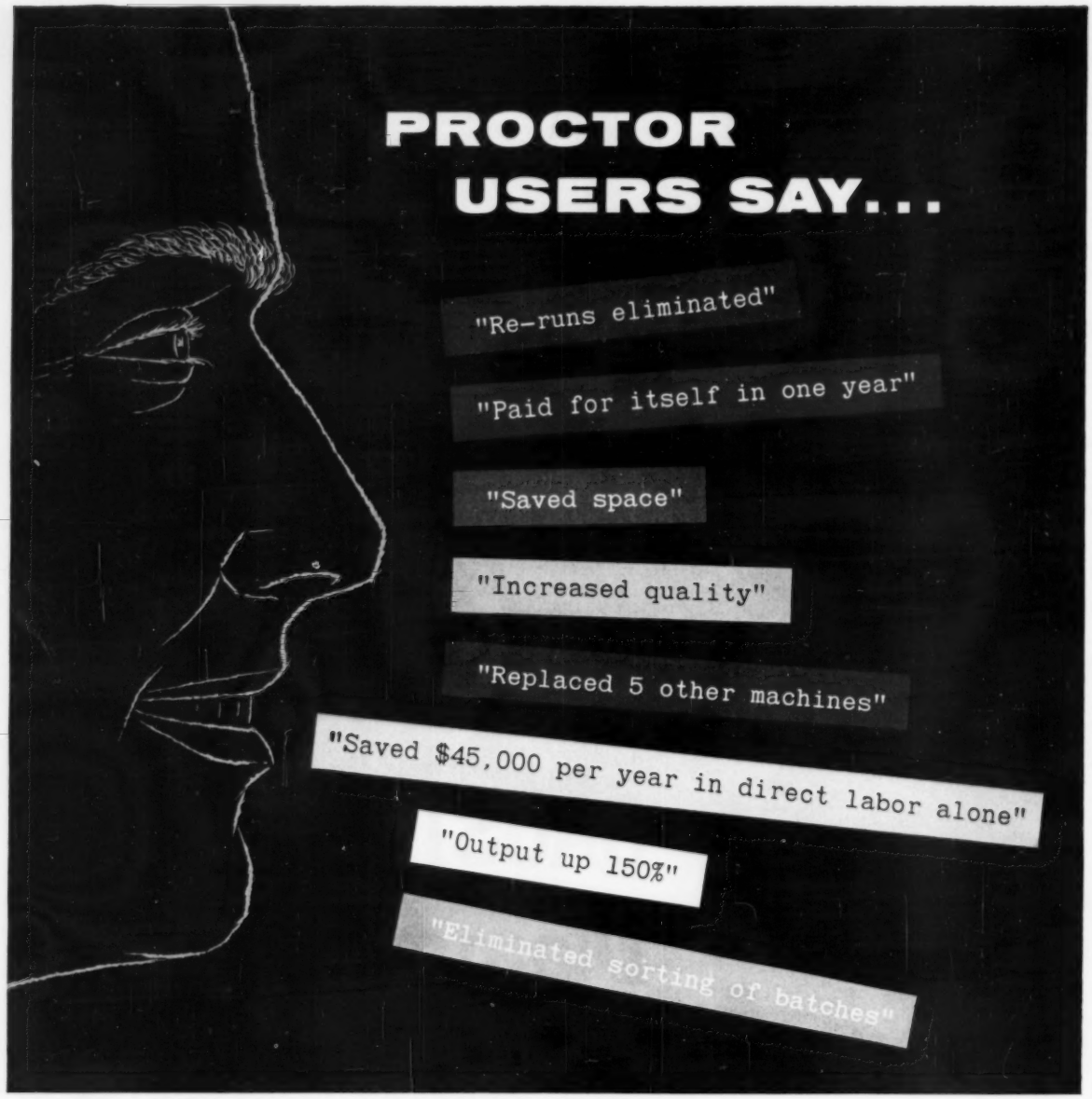

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A TEXTILE WORLD Refresher

Preparation and Bleaching—

4. The Action of Enzymes On Sizing Materials

- How enzymes work
- Outlines of the principal desizing methods that are based on enzymatic action

By **PROF. KENNETH S. CAMPBELL,** Dept. of Textile Chemistry
N. C. Stage College School of Textiles

THE MOST POPULAR AND EFFECTIVE METHOD of removing size is by the use of enzymes. Enzymes are complex, nitrogen-containing, organic substances that are secreted by the cells of living organisms and have the power to accelerate specific chemical changes to a pronounced degree.

If gray fabric is wet with water and laid down in a warm area, after a time infection with airborne micro-organisms will take place. These micro-organisms will secrete starch-splitting enzymes, and the starch will eventually be solubilized. This method was once used, but there is too much danger—almost the inevitability, in fact—that micro-organisms capable of secreting cellulose-splitting enzymes will also be present and the cotton will be degraded.

For this reason, enzymes specific for the starch are selected and deliberately applied under optimum conditions for their activity. There are a number of sources for such enzymes. Malt diastase, or amylase, which is prepared by extracting malt obtained from barley grain, has been used for cloth desizing for over 100 years. Useful bacterial enzymes are derived from several types of micro-organisms, and extracts from the pancreatic glands of slaughtered livestock provide a useful animal amylase.

How Enzymes Affect Starch

Most starches consists of two distinct fractions: amylose, a straight chain fraction constituting about 25% of the total, and amylopectin, a branched-chain portion of considerably higher average molecular weight. Although it may be described as water-soluble, amylose is made much more readily water-soluble by the action of enzymes. It does not contribute materially to the viscosity of starch mixes; it is responsible for the blue color given when yarn containing size is spotted with iodine solution.

The amylopectin, 75% of the total, provides the viscosity and is considerably more difficult to render soluble and remove; it gives a violet color when tested with iodine. Dextrins formed by the solubilization of amylose also give an identical violet color; but since dextrins are readily rinsed out with water while amylopectin is not, there need be no confusion as to which is giving the color reaction.

Amylase exists in two forms known as alpha- and beta-amylase. Only the former is effective in dextrinizing (or "liquefying") starches, although if some beta is present the efficiency of the alpha is increased considerably. Beta-amylase breaks down starch to sugar (maltose) to a much greater extent in the presence of the alpha type than in its absence.

Malt contains both types of amylase, while bacterial and animal products are essentially alpha-amylase. Even more important, however, are the activity and stability of the enzymes, and probably the best choice for all-around textile use is a bacterial type.

Balance Operating Conditions

A number of factors influence enzyme activity and stability and must be considered in any desizing operation. Stability is ordinarily impaired by a rise in temperature, whereas the rate at which starch is degraded, or the enzyme activity, is approximately doubled with every 10° C. rise in temperature. There must be a balance

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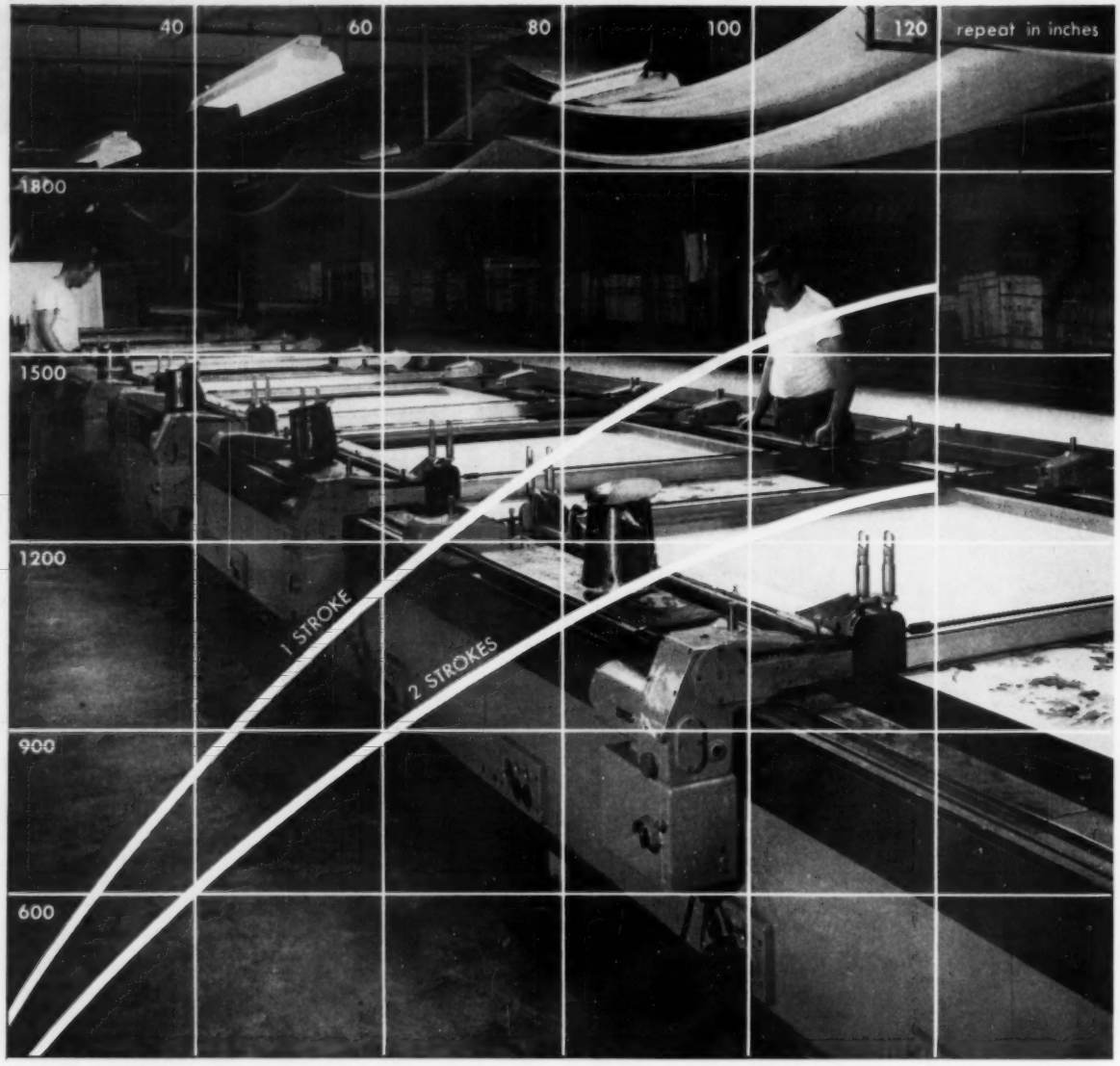

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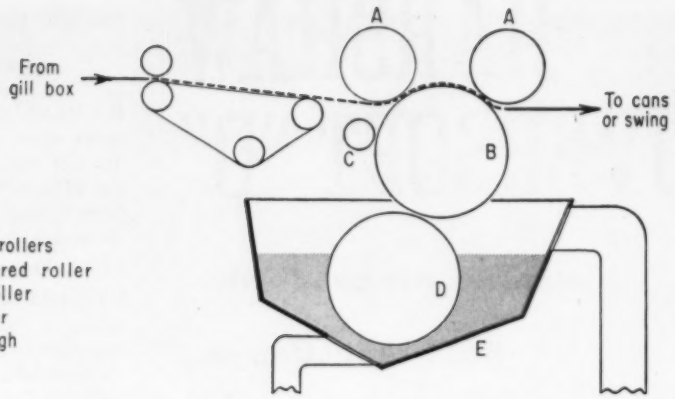

THE TWO-ROLL VIGOUREUX PRINTING MACHINE outlined here will produce more-even blends than the usual one-roll printing machine.

A Printing rollers
B Felt-covered roller
C Doctor roller
D Dye roller
E Dye trough

How To Get Best Results From Vigoureux Printing

Recent improvements in methods have made Vigoureux printing more important as a method of producing mixed shades on wool or man-made-fiber tops. Here are—

- **A run-down on the newer ways to produce Vigoureux prints**
- **Tips on how to proportion printed and dyed stock to best advantage**

BETTER METHODS of producing Vigoureux prints are creating new interest in an old process for applying color to wool tops.

Vigoureux, or melange, printing was developed originally for wool; but now rayon and other man-made-fiber tops are being processed in this way.

The chief advantages of this printing process are: (1) It prevents any fiber groupings of one particular color, and (2) it gives uniformity in shade to a worsted yarn, particularly if processed on a shortened sequence of operations.

The tops to be printed are fed from a revolving ball creel to the gill-box section of the machine in a broad sheet of slivers. The idea is to preserve this parallel arrangement of the slivers so that printing is more easily done. The gill box is of the usual Bradford intersecting type, and a draft of five or six is applied.

The printing section of the gill comprises a stainless-steel dye box in which revolves a dye roller to pick up the dye paste. The dye roller is 17 ins. long and about 7 ins. in diameter. Working in contact with the dye roller is a felt-covered roller that transfers the dye paste to the nonferrous-metal printing roller.

The printing roller has raised ribs to print bands of color on the slivers. The width of the raised ribs determines the amount of printed area, and the stripes vary from about ⅛ to ½ in. wide.

The most recent machines have two printing rollers. Where only one printing roller is used, a mottled effect may be produced in the finished cloth, which is not noticeable when two printing rollers are used.

The production of a melange printing gill is from 90 to 130 lbs. per hour, according to the sliver input weight fed to the gill and the draft used.

The dyestuffs used in melange printing are chiefly of the chrome mordant class. Certain acid dyes are used for brighter shades, and premetallized dyes are also used.

The printing paste is generally prepared with British gum, which can be easily washed out. Glycerine is added

The Commonwealth Scientific and Industrial Research can be done. Other additives are also used.

The commonwealth Scientific and Industrial Research Organization, Australia, has recently developed an improved method for dye fixation involving the addition of benzyl alcohol or other suitable solvent to the dye paste. The quantity added is about ½ to 1 gal. per 10 gals. of paste, which enables dye fixation to be done in 5 to 10 mins. The actual time depends on the steam pressure and the type of dye used.

The printed web of slivers may be dealt with in various ways. In one method, the web is carried up to an overhead reel that delivers the sliver onto trays of open wirework construction. The trays are mounted on a truck that is moved backward and forward, and when a tray is filled another is inserted until the truck is full and can be wheeled away to the cottage steamer to be steamed.

Sometimes the sliver is run into wicker baskets or perforated stainless-steel cans. The can method may be desirable if autoclaves are used for steaming, although more handling is involved.

The steaming process is discontinuous and will require varying amounts of time. On all-wool top printed in a

A TYPICAL VIGOUREUX-PRINTING MACHINE such as this will produce from 90 to 130 lbs. of wool top per hour, according to the weight of the sliver.

light shade with chrome mordant dyes, colors may be well fixed in 2 hrs. Darker shades may require longer steaming. The usual working pressure is 5 psi.; but to get good color yield and fastness on man-made-fiber tops, an autoclave that can operate at 50 psi. is required in some cases.

After steaming, the top is backwashed to remove thickener and any loose dye. A typical backwashing machine usually has three or four wash bowls but may have up to five bowls, according to the material.

Continental processors use dry-combed tops, but in Great Britain oil-combed tops are more usual as the basic raw material for melange printing. Oil-combed tops will require a more-intensive treatment in the wash-bowl section. Usually a small percentage of synthetic detergent is added to the third bowl. All other bowls are rinse bowls.

Blends made from 100% Vigoureux-printed tops are perfectly feasible, but usually the printed top is further blended with stock-dyed fibers to produce colored mixtures.

The shades produced by printing often are not as clear and bright as those produced by dyeing, and the Vigoureux process is slightly more expensive than stock dyeing; but the mixed-color effects produced by blending stock-dyed top with printed top are superior to the results obtainable by either process alone.

The best all-around results in terms of color clarity and evenness of color come from blends of 20 to 30% Vigoureux-printed stock with either white or stock-dyed top.

An example of a series of grays based on 20% melange stock and varying quantities of white and black stock dyed top is:

Blend Component	Percentages				
White	15	40	50	65	80
Melange	20	20	20	20	20
Black	65	40	30	15	..

CONTINUED FROM PAGE 73

between stability and activity so that all of the starch present is solubilized in the time allowed under the existing conditions.

These conditions will be determined by the type of equipment and the production requirements. In order to achieve any degree of efficiency of operation, it is necessary that the pH of the bath, the electrolyte present, the wetting agent used, and the temperature employed all be selected carefully with respect to the maximum activity and stability of the particular enzyme used.

All of these factors are interrelated; so there will inevitably have to be some compromise. For example, the pH for maximum activity may be several units removed from the pH for maximum stability; and this relationship may be altered further by a change in temperature. Fortunately, the optimum combinations for a variety of plant setups has been worked out by the enzyme suppliers and is readily available; it is obvious that their recommendations should be followed.

Additives May Help or Hinder

There are some substances that are distinctly advantageous when added to the desizing bath and others that must be guarded against. Some amylases are fully effective only in the presence of chlorides, which can be supplied by adding an amount of common salt about equal to the weight of the enzyme. A surfactant or penetrant helps to wet the fabric and the starch more quickly and can aid in removal of solubilized products.

But ionic surfactants can interfere with enzyme activity; so they should be avoided where possible and a nonionic type should be substituted. Heavy metal ions, such as Cu, Zn, Pb, and Fe, affect amylases adversely and should be avoided, as should phosphates, phenol, formaldehyde, chlorine, and cationic softeners. In adjusting the pH of desizing liquors, acetic acid is commonly used to lower pH and sodium acetate to raise it.

Many types of wet-processing equipment can be used for carrying out the desizing operation. The simplest method from the equipment standpoint is to saturate the goods in the quench box following singeing and pile them down in bins or pits for a period of hours. A temperature of 140° F. for padding on the enzyme is considered good practice.

If the heat of the cloth coming from the singer might impair the stability of the enzyme, a water quench might be used first. (This step should also be considered in desizing with acid because even slightly elevated acid-solution temperatures may degrade cellulose.)

Alternatively to this simple desizing process, kettles, kiers, jigs, or becks may be used for the actual desizing step. Here the time of digestion will be from 30 mins. to 1 hr., according to the temperature.

Two methods are used in continuous desizing. If a J-box is employed, the goods are saturated with enzyme and then run into the J-box, where a temperature of about 180° F. is maintained. The dwell-time in the J-box is approximately 30 mins., which is followed by washing in a range. If a steamer is utilized, the enzyme-padded goods are run through it so that an exposure time of 30 to 60 secs. is obtained; then the goods are washed.

The rinsing and washing operations that follow desizing will vary with the desizing method and the fabric at hand. Goods that can be roped are often put through multistrand tension washers or slack washers. If the goods require open-width handling, they are washed in wash boxes designed for this purpose. Either way, washing may be a simple hot-water treatment or a fairly thorough scouring operation.

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Repack-Under-Pressure Seat and Collar—permit valve to be repacked under pressure when fully open.

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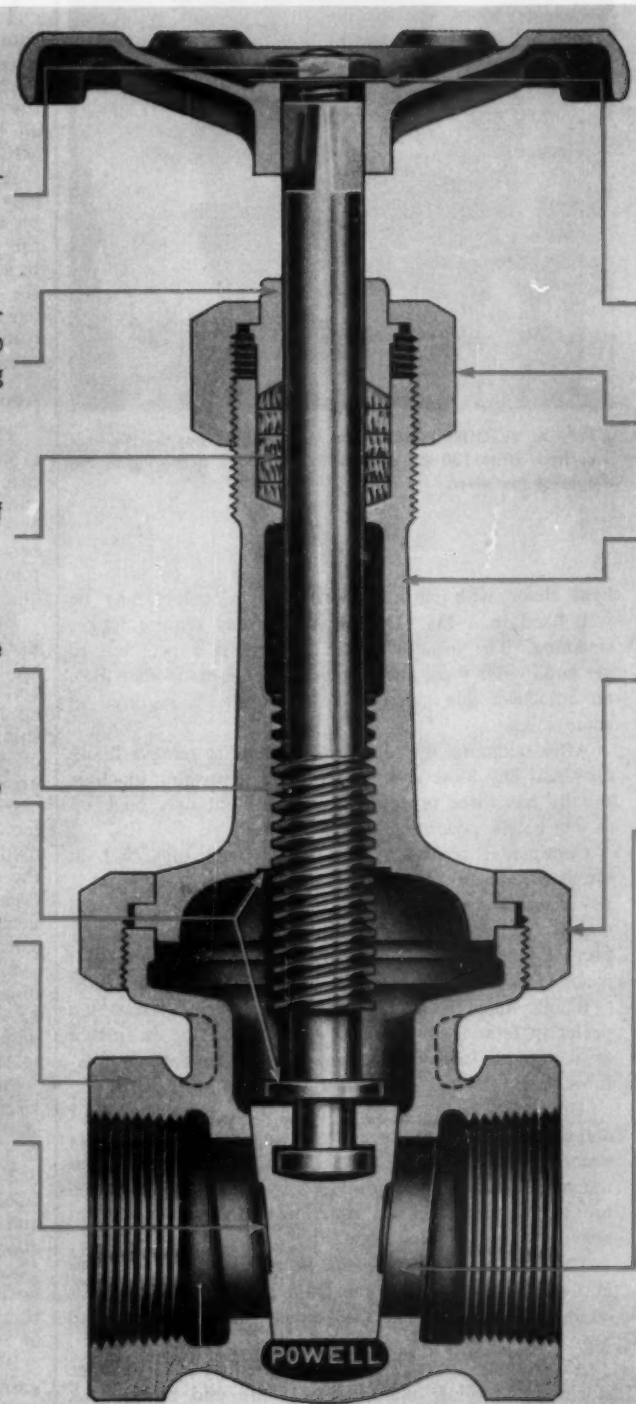

Sectional—Union Bonnet Rising Stem Gate Valve Fig. 2700—125 pounds, Fig. 2714—150 pounds.

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BRONZE UNION BONNET GATE VALVES

for 125 and 150 pounds WSP

These new BRONZE Union Bonnet Gate Valves have many superior features—some of which are outlined here. For complete details, write for new illustrated circular. Or check with your nearest Powell Valve distributor.

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Long Bonnet—cast of high tensile bronze for long service.

Octagonal Ring Nut—is deep threaded and tightly holds body-bonnet connection. Affords additional wrenching positions.

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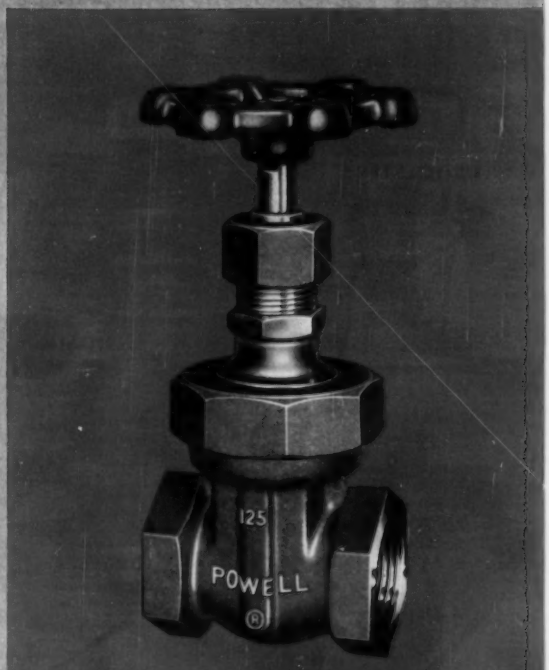
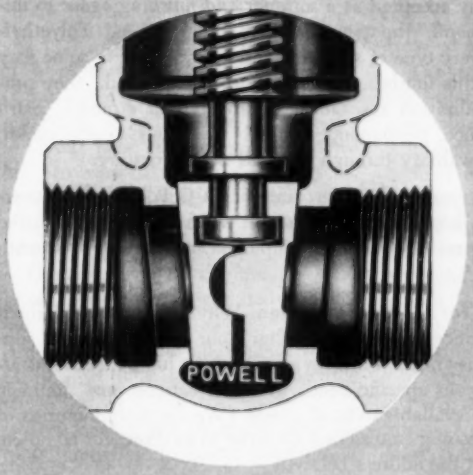
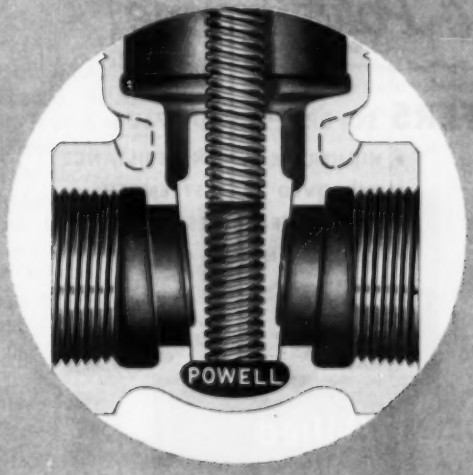


Fig. 2707—125-pound Union Bonnet Non-Rising Stem Gate Valve. Also available for 150 pounds—Fig. 2712.



Detail of Sectional View Inside Screw Rising Stem Gate Valve showing Double Wedge Disc and Integral Seats.



Detail of Sectional View Non-Rising Stem Gate Valve showing Solid Wedge Disc that rises on stem. Integral Seats.

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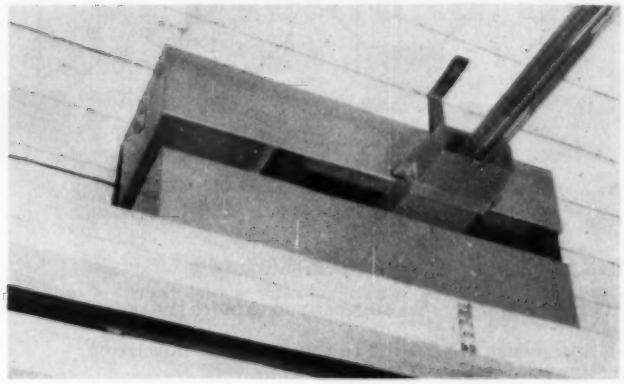
Saylesville Bleachery Licks the Tramp-Iron Problem

• Sayles Finishing Plants, Inc., had a serious problem with damage from tramp iron woven into fabric. A metal detector that operates on the high-frequency principle was installed in the first stage of processing, and pin-cuts from stray scraps of metal are now a thing of the past.



METAL PARTICLES in these goods going to a pad will be detected by the high-frequency magnetic field generated by the metal detector. Any metal present will distort the field and set up impulses that actuate the shut-off switch.

At the Saylesville, R. I., plant of Sayles Finishing Plants, Inc., considerable yardage of yarn-dyed ginghams is desized and finished.

Goods from one source in particular are very likely to contain pins, needles, paper clips, and occasionally even a piece of heddle woven into them.

Damage to pad equipment from these bits of metal was bad enough, but often several thousand yards of goods would come up with tiny cuts every yard or so if the metal became embedded in a pad roll.

The smaller bits of metal were almost impossible to detect except by a very thorough gray examination, which was altogether too costly to be considered.

The plant solved its problem by installing a metal detector in a scutcher-pad-box range that is used to wash out the converted starch.

How the Detector Works

The roped goods are led through the high-frequency magnetic field maintained in the detector. If even an extremely small piece of metal embedded in the goods passes through the detector, the magnetic field is disturbed and this unbalance is translated into electrical impulses that operate the shut-off switch.

Plant management recalls that within 20 mins. of the metal detector's installation, it shut down the scutcher-pad range.

"We thought it probably was not adjusted exactly right," said Plant Supt. George A. Bates, "but we looked the goods over carefully and found a piece of a paper clip stuck in the fabric."

Since the installation of the metal detector, Sayles has had no further damages from tramp metal embedded in fabric.

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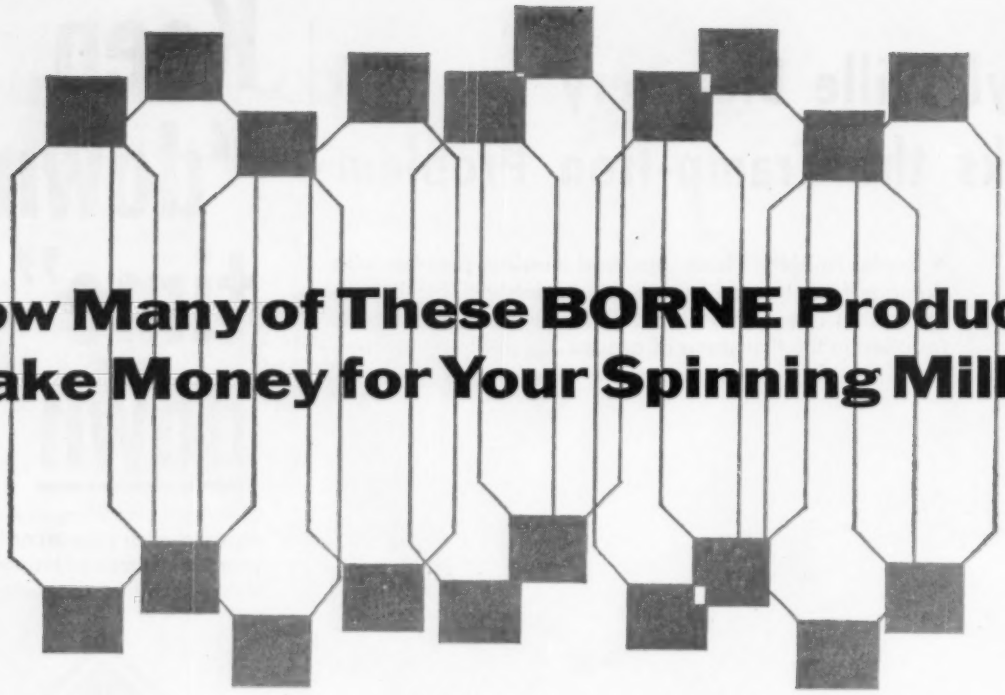

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SOLUTINTS - MINOTINTS - TINTINOLS	Completely soluble fugitive tinting compounds for natural fibers, synthetics, and blends providing identification, lubrication, improved processing plus fugitivity. POWER-MATCHED for equal application of all colors.
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A TEXTILE WORLD Refresher

The Basic Chemistry Of Dyes and Dyeing—V

- The six types of direct dyes
- How aftertreatments affect fastness properties of direct dyes
- The structure of sulfur dyes

By **WILLIAM POSTMAN, Ph. D.,** Asst. Professor of Textile Chemistry and Dyeing
A. French Textile School, Georgia Institute of Technology

DIRECT DYES

The direct dyes will dye cellulose directly from a boiling neutral or slightly alkaline bath in the presence of added sodium chloride or sodium sulfate. In addition to their application to cellulosic fibers such as cotton, rayon (viscose and cuprammonium), and Fortisan, direct dyes are also used for coloring leather, paper, wool, silk, and the nylons.

The lightfastness of these dyes on cellulose ranges from poor to very good; washfastness is poor to moderate. Their ease of application and variety of hues have made direct colors a most popular class of dyes for coloring cellulose.

Much work has been done in an attempt to improve their fastness properties, both by certain aftertreatments and by modification of the dyestuff molecules themselves. Changes of the latter type have served to produce direct dyes with very good lightfastness.

How Direct Dyes Are Grouped

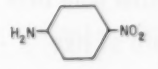
The Colour Index subdivides all direct dyes into six classes, based on fastness properties and amenability to certain aftertreatments:

1. Direct dyes possessing general properties.

2. Direct dyes possessing better-than-average lightfastness, the so-called fast-to-light direct dyes.

3. Direct dyes designed especially for an aftertreatment on the fiber called diazotization and development. This aftertreatment consists of converting an amino group in the dyestuff molecule to an azo group and combining this with another suitable molecule to form a more-complex dye right on the fiber.

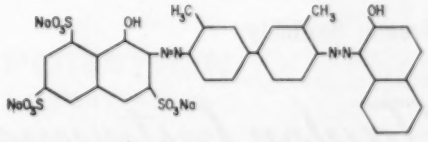
4. Dyes designed to be combined on the fiber with diazotized p-nitroaniline. In this method of aftertreatment, the amino group of the p-nitroaniline



is converted to an azo group and combined with the dye on the fiber.

5. Direct dyes capable of combination with metallic salts, usually copper sulfate or chromium salts such as sodium or potassium bichromate.

6. Direct dyes capable of reaction with formaldehyde.



The formula above, for C. I. Direct Blue 27, is repre-

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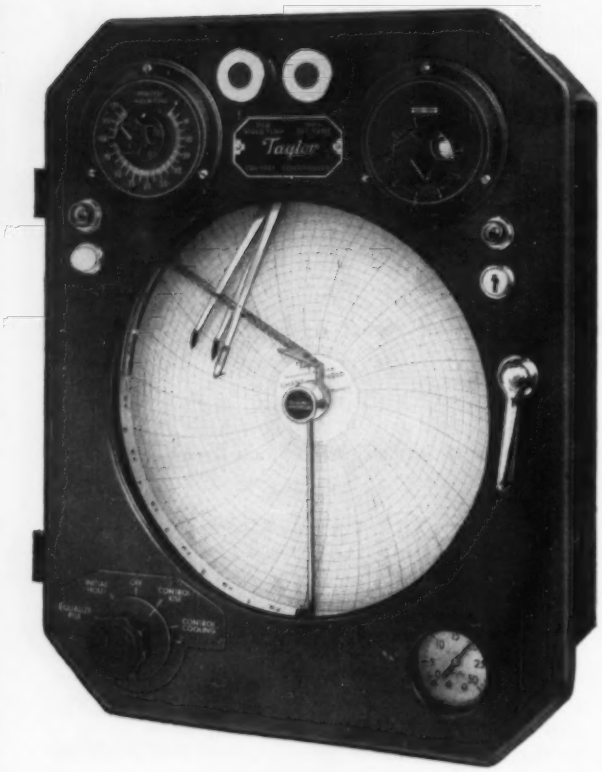
New Taylor FULFLEX* Dye Cycle Controller was the "hit" of the Textile Show



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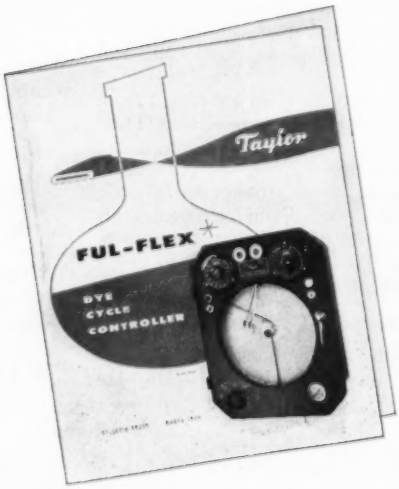

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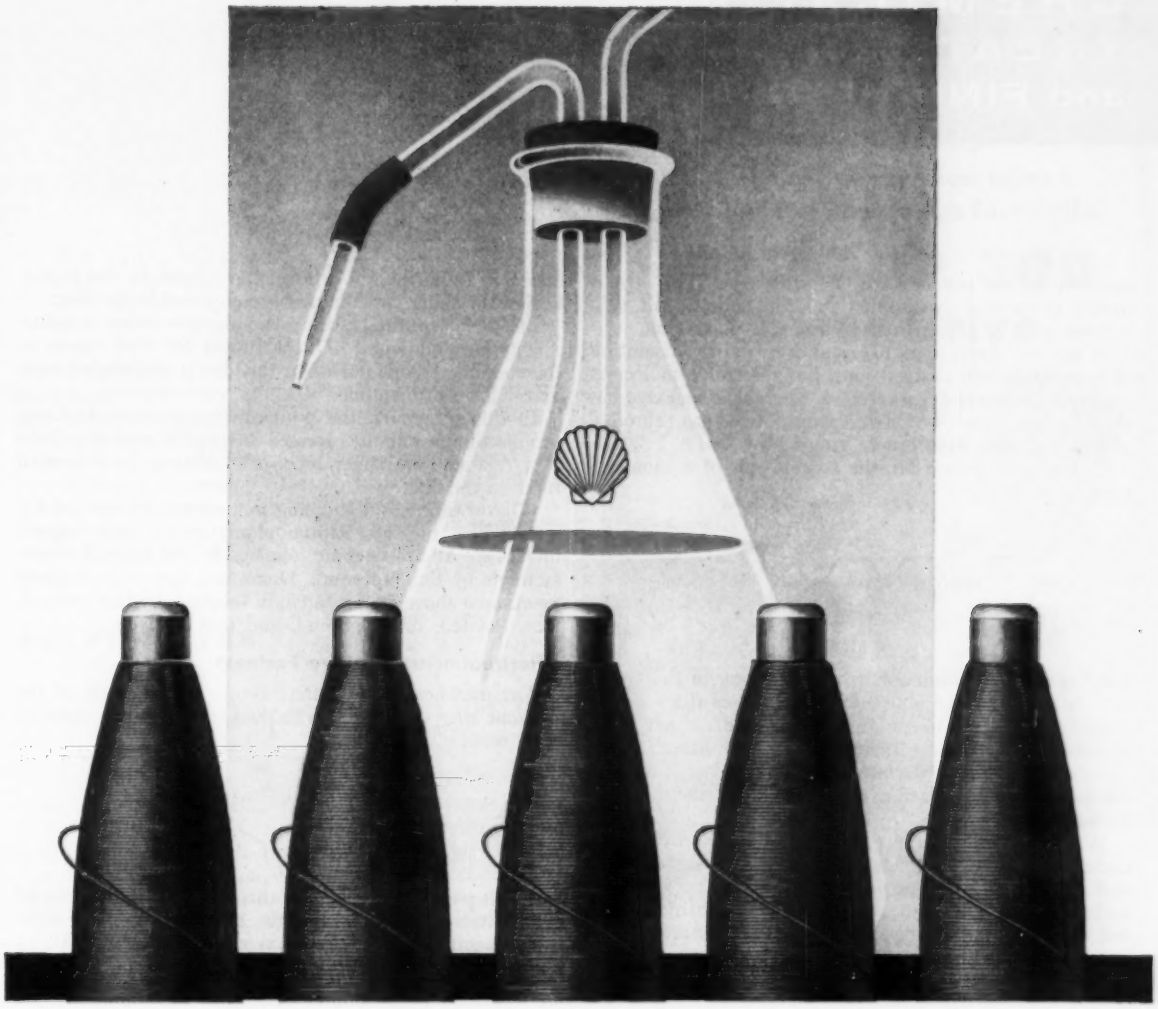

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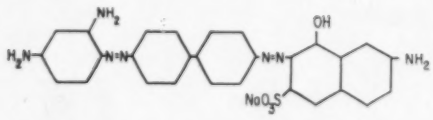
SHELL

sentative of the general class of direct dyes. This dye is similar to an acid dye in that it is the sodium salt of a sulfonic acid; it differs from an acid dye in its size.

In general, direct dyes, like acid dyes, ionize in solution to form negatively charged ions; but direct-dye molecules are larger than acid-dye molecules. The above blue dye has three solubilizing $-SO_3Na$ groups, two azo chromophores, and two auxochrome groups, the OH's.

C. I. Direct Brown 56, the sodium salt of a monosulfonic acid:



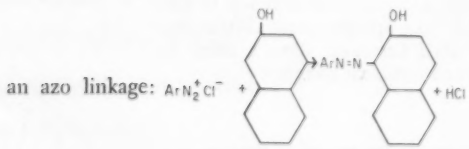
also has two azo chromophores. In addition to the $-OH$ auxochrome, this dye molecule also possesses three $-NH_2$ auxochromes, the presence and position of which make it possible to aftertreat this dye by any of three of the methods given above: diazotization and development, combination with diazotized p-nitroaniline, or reaction with formaldehyde.

With this particular dye, the first two aftertreatments cause a decrease in lightfastness, an increase in washfastness, and a marked increase in fastness to water. The formaldehyde aftertreatment also decreases the lightfastness, does not affect the washfastness, but causes an increase in the fastness to water.

How Diazotization Works

Diazotization consists of treating an $-NH_2$ group attached to an aromatic ring ($ArNH_2$) with nitrous acid (HNO_2, formed by reaction of sodium nitrite, $NaNO_2$, with acid: $NaNO_2 + H^+ \rightarrow HNO_2 + Na^+$) in the presence of HCl, for example. This treatment converts the $-NH_2$ group to a diazonium salt: $ArNH_2 + HCl + HNO_2 \rightarrow ArN_2^+ Cl^- + 2H_2O$. The diazonium salt will react with a compound such as

beta-naphthol in a coupling reaction

to form an azo linkage: 

When fibers that are dyed with a suitably constituted direct dye are subjected to this treatment, a new azo dye is formed on the fibers. Consequently, a color different from that of the parent dye is "developed." The resulting increase in wetfastness is attributable in part to the formation of the larger, more-insoluble compound in the fiber.

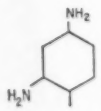
The beta-naphthol used in the above reaction is called a coupling compound. Direct Brown 56 itself serves as the coupling compound when this dye is aftertreated with diazotized p-nitroaniline.

In this procedure, the p-nitroaniline is diazotized and the diazonium salt thus formed is coupled with the direct dye. Again a new, larger, more-insoluble azo dye is formed right on the fiber.

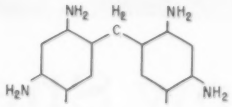
(Diazotization and coupling is the standard method for introducing the azo chromophore group into organic molecules. All azo dyes are prepared by the dyestuff manufacturers by this procedure. Direct azo dyes such as those mentioned above are prepared, in solution, by this method, then isolated, dried, ground, and sold to dyers.)

Aftertreatments Improve Fastness

The presence, in the Direct Brown 56 molecule, of the benzene ring substituted with two amino groups *meta* to each other

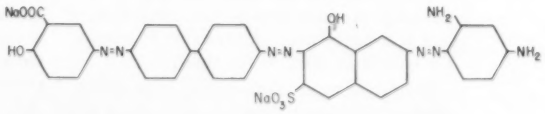


makes it possible to aftertreat this dye with formaldehyde. This aftertreatment probably ties two direct dyestuff molecules together on the fiber via a methylene ($-CH_2-$) linkage:



The result is the formation of molecules essentially twice as large as those originally applied, with the consequent above-noted increase in wetfastness properties. This aftertreatment results in little or no shade change.

Direct Brown 57,



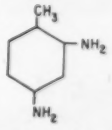
also possesses the structure necessary for a formaldehyde aftertreatment: a benzene ring at the end of the molecular chain substituted with two amino groups in *meta* position. In this case, formaldehyde causes a marked increase in wetfastness properties.

It will also be noted that at the other end of this dye molecule a structure enabling it to combine with a metal atom (see section on "Acid Dyes") is present: the $-COOH$ and $-OH$ groups on adjacent carbon atoms in the ring. For this reason, this dye molecule may be aftertreated with metallic salts.

An aftertreatment of this dye with copper sulfate causes the shade to become duller but results in a great increase in lightfastness and some increase in washfastness. Aftertreatment with a mixture of bichromate and copper sulfate causes a marked increase in lightfastness as well as some increase in wetfastness properties. In general, aftertreatments with copper salts improve lightfastness; chromic salts improve washfastness.

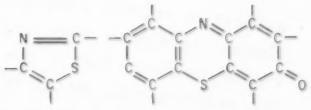
Because direct dyes form negatively charged colored ions in solution, it is possible in many instances to react the dyed fiber with a large positively charged molecule to form a salt between the two oppositely charged species. The result is improved wetfastness with little or no shade change.

SULFUR DYES

"Bake 1 part of toluene-2,4 diamine 

with 2 to 4 parts of sulfur at temperatures from 190 to 250° C. for 15 to 24 hrs., and treat the crude product with aqueous caustic soda or sodium sulfide." These instructions, for the preparation of C. I. Sulfur Orange 1, are typical of those used in the manufacture of dyes of this class. The nature of the dyestuff obtained is determined by: (a) the starting materials, (b) the conditions under which they are reacted with the sulfur, and (c) the conditions under which the final product is isolated.

The products are mixtures of sulfur-containing organic compounds, the formulas of which are not known. Various hydroxy and amino organic compounds are heated with sulfur or alkaline polysulfides to form compounds, some of which have been shown to contain the following ring structures:



The dyes of this class, essentially all of which are water insoluble, are generally applied to cellulosic fibers from a sodium-sulfide bath in which they dissolve. The dyeings are frequently aftertreated to develop the final shade more rapidly and/or to improve fastness properties.

Shade development and improved wetfastness can be obtained with bichromate and acetic acid. The addition of copper salts to the bichromate-acetic acid bath also improves lightfastness, and oxidizing agents such as hydrogen peroxide or sodium perborate can be used to obtain brighter shades.

As a class, the sulfur dyes, which are used mainly for dyeing cellulose, produce only dull shades. Their fastness properties are generally good, with the exception of their peculiar sensitivity to chlorine.

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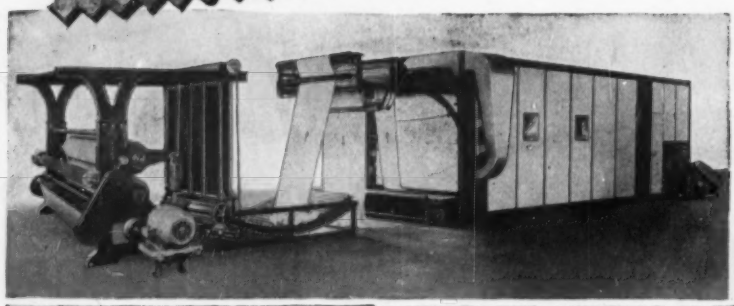

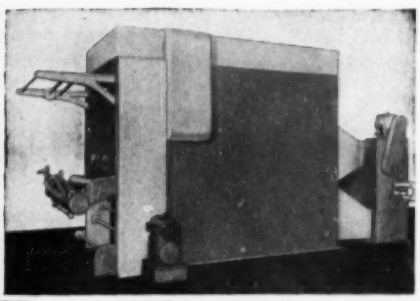

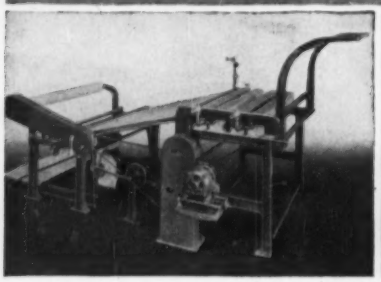

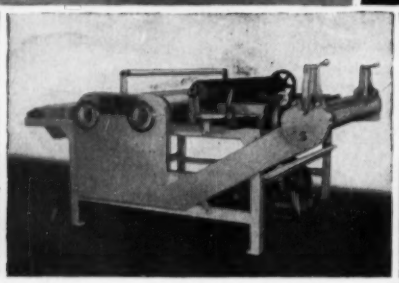

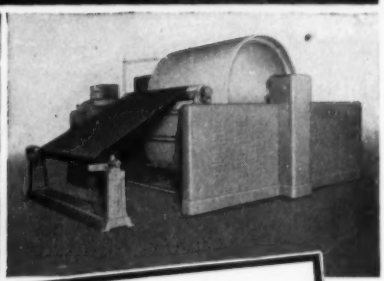

Top row: Cold Water Shrinking Machine, Continuous Steam Sponging Machine. Bottom row: Table Steam Sponging Machine, Double Cylinder Sponging Machine, Refinishing Machine.

Any of five basic Gessner machines — the cold water shrinking machine, the continuous steam sponging machine, the table steam sponging machine with brush for fleeces, the double cylinder sponging machine, and the refinishing machine, which truly restore and embellish fabric finishes, do so at tremendous savings in operational cost.

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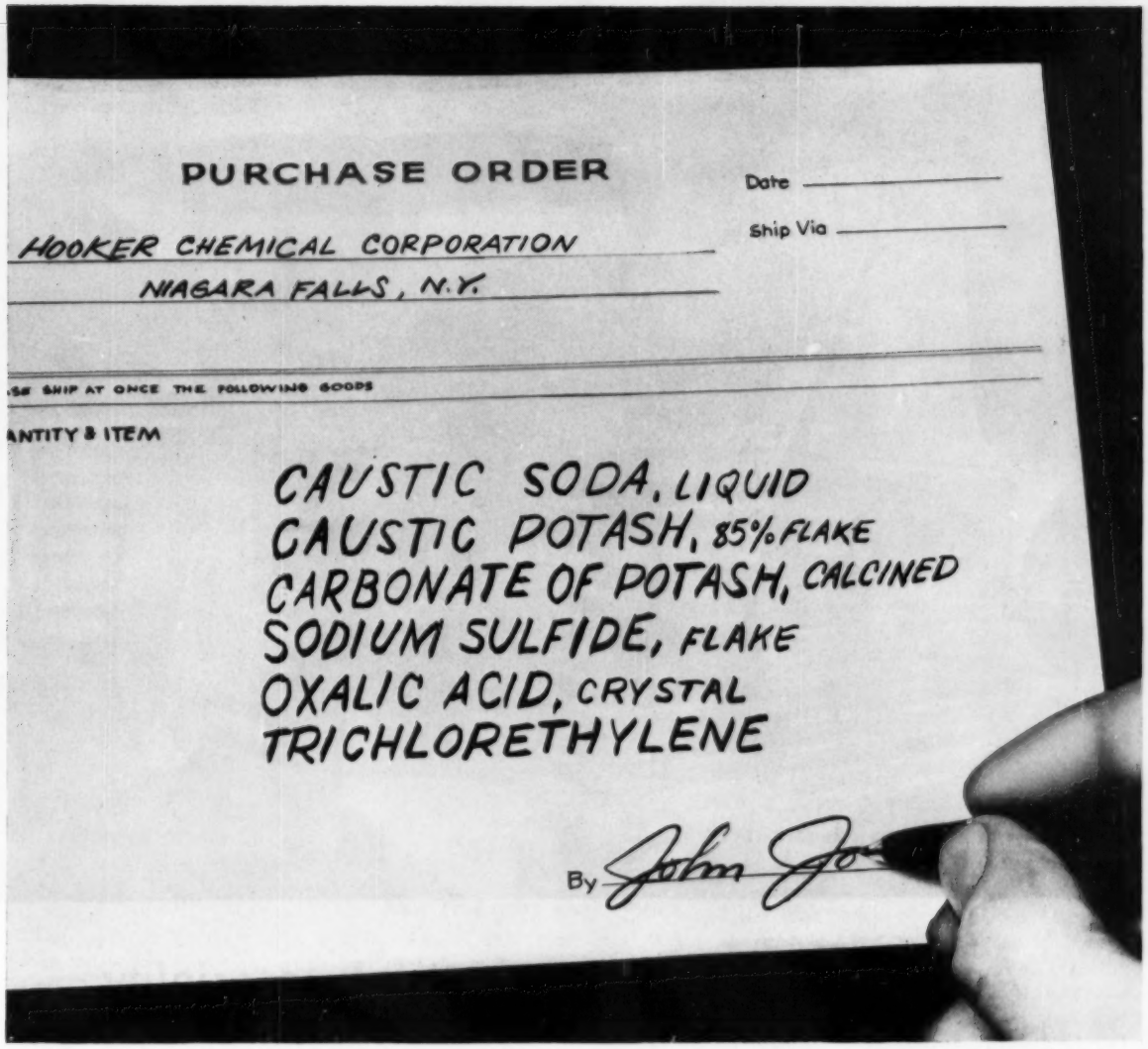

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RHOPLEX

What To Look For in Latex

The term latex covers a multitude of materials. Here is a run-down on sources and properties of latices that—

- Points up the individual characteristics of various types
- Describes the qualities necessary for specific applications

By ROY H. BOGGS

ALL RUBBER IS LATEX, but not all latices are rubber. The term latex covers natural and synthetic rubbers, acrylic resins, polyurethane foams, acrylonitriles, polyvinyl chloride, polyvinyl acetate, and many others.

The usage of the term latex is so broad today that almost any emulsion can be included in the latex classification, even though the product has little or no resemblance to rubber as the word is generally understood.

Latices vary as greatly in their properties as in their sources and their chemical structure.

How Properties Vary

Latices that may be classified as rubbers such as natural rubber and GRS butadiene-styrene rubbers are superior in elasticity, have good adhesive qualities, and when compounded with clays, carbon black, talc, metallic oxides, and sulfur exhibit improved ageing, resistance to wear, and other properties not found in the raw material.

The latices derived from acrylic acid and its reaction products, polyvinyl chloride, urethanes, and others, are different from the natural and synthetic rubbers in one basic feature: they do not require vulcanization. As a group they are less affected by ageing than are the rubbers, and this factor is of considerable importance in textile applications.

The qualities of elasticity and bounce usually associated with rubbers are exhibited in varying degree by the latices that do not need vulcanization.

Properties	Unsaturated compounds	Saturated compounds
Requires cure	Yes	No
Ageing resistance	Poor to good	Excellent
Effect on dyes	Poor to good	Excellent
Water resistance	Good	Good
Oil and solvent resistance	Poor to excellent	Good to excellent
Film clarity	Good	Good to excellent
Binding	Excellent	Good to excellent
Dimensional stability	Excellent	Good
Resilience	Excellent	Good

THE RELATIVE PROPERTIES OF LATICES that are classed as unsaturated and saturated compounds are shown here.

Many Modifications Are Possible

Each type is susceptible to chemical modification that can be directed toward producing any quality most desired for the end use. The basic characteristics of the compound have to be taken into account by the chemist before he starts to retailor the material, but constant research produces surprising results from the most unlikely base compounds.

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choose for a textile application is dependent on a number of factors. Elasticity, ageing, adhesive qualities, and cost all have to be considered.

Tufters Use Two Types of Rubber

Tufted-carpet manufacturers are one of the largest consumers of latices. The primary latex used for backing carpets is either natural or GRS rubber. Requirements in this field vary somewhat according to whether the backing is applied before or after dyeing.

Predyeing compounds must have excellent wet strength to stand several hours working in hot dye liquors. The latex should be of a type that is not affected by copper-bearing dyestuffs, and its accelerator should not act as a dyestuff for acetate fibers.

The backing should work well on all fibers and fabric constructions and should possess good ageing qualities.

It should also be resistant to light and have control over the final hand of the fabric. It should not affect finishing materials such as water repellents and should not interfere with cutting or sewing operations.

Finally, the backing compound should be applicable by simple means.

All these requirements can be met by natural rubber or GRS types, provided the extenders, accelerators, and oxidizing agents are chosen for the job.

What Post-Dye Backings Must Do

Backings that are applied to rugs after dyeing need somewhat different qualities. Here again they would resist ageing, but in addition they generally are expected to increase the weight and determine the final hand of the carpet fabric. The water resistance of direct dyes should not be reduced by the backing material, and it should not interfere with water-repellent finishes.

The surface tension of the mix must be controlled so that there is no danger of strike-through to the face of the carpeting.

The backing should actually improve the cutting, sewing, and working qualities of the fabric if possible.

Nonwovens Need Special Binders

Latex binders for nonwoven fabrics must have rather special characteristics. In addition to excellent ageing qualities, they must be able to adhere well to various fibers and be compatible with a wide range of colors and chemicals if the nonwoven fabrics are to be dyed or printed.

An important requisite is a low rate of migration because it is very desirable that the backing should tend to agglomerate at the points of fiber contact, rather than to spread evenly along the length of the fiber. The migration effect is increased if the fabrics are can-dried.

This quality of staying put ties in with bond strength very directly, and good bond strength at a low ratio of latex to fiber is most important. The ratio of binder to fiber may go as high as 50% and as low as 5%. The materials are generally latices or mixtures of latices with resins.

Binders for nonwoven fabrics are formulated to produce a wide variety of hands. Nonwoven fabrics for specific uses should be bonded so that they can be laundered or drycleaned. In any case, binders should be stable to application by impregnation, flotation, or spraying. The ultimate aim of nonwoven-fabric producers is a fabric that is completely suitable for outerwear.

Additives Have Important Role

No backing compound and few binders consist of latex alone. Other materials exclusive of accelerants and oxidizers are used to modify the latex to suit a particular purpose.

One of the prime reasons for adding inert materials is to cut the cost of the backing compound. Latex in the sense of the rubber-like compound can be filled or extended up to 75% of its weight and still retain some semblance of its original character.

In a way this tolerance of extenders is an unfortunate quality of these substances because the temptation to dilute them to cut costs often overcomes better judgment, and an inferior product results.

However, the judicious addition of materials like china clay, talc, barytes, starch, carbon black, and calcium carbonate can produce an economical mixture that is actually superior to latex alone for some purposes. Mixtures of this type are most commonly used for rug backing, where weight is important and there is less need for drape and elasticity.

Other additives that affect viscosity, strike-through, and elasticity are classed as thickeners and do not contribute much to weight. These materials include sodium alginate, sodium acrylate, and ammonium acrylate.

How Materials Are Classified

The latices can be divided into two principal classes—unsaturated compounds and saturated compounds.

The unsaturated materials fall into what is generally considered as rubber and include natural rubber, SB-R (or GRS by the old terminology) chlorinated rubber, butadiene-acrylonitrile, and others.

The saturated compounds are usually thought of as resins and include the acrylates, polystyrene, and polyvinyl acetate.

One outstanding advantage of the saturated compounds is that they do not need vulcanization or curing but develop their final form and properties by simple drying.

A comparison of the qualities of these two types of latex in terms of backing or binding application is shown in the table on page 93.

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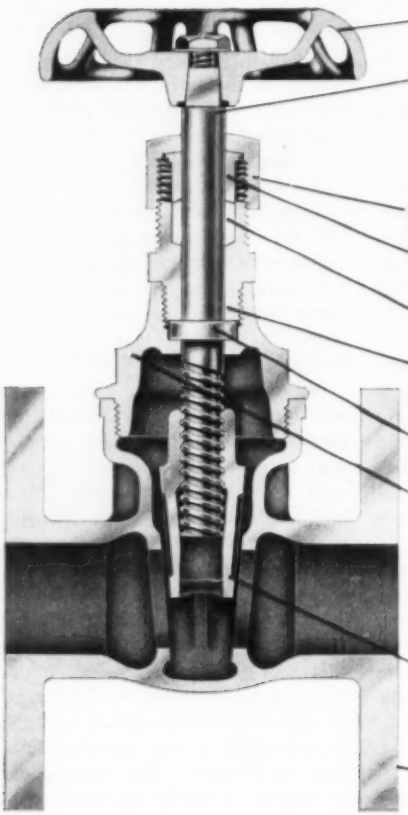

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BONNET is a rugged unit, with accurately machined threads to assure tight joints with the body and packing box nipple. Top of wedge and corresponding face inside of bonnet are machined to insure perfect spindle alignment and backseating for repacking valve under pressure.

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BODY has best combination of wall thickness and shell design to withstand pipeline stresses. An integral seat minimizes corrosive attacks.

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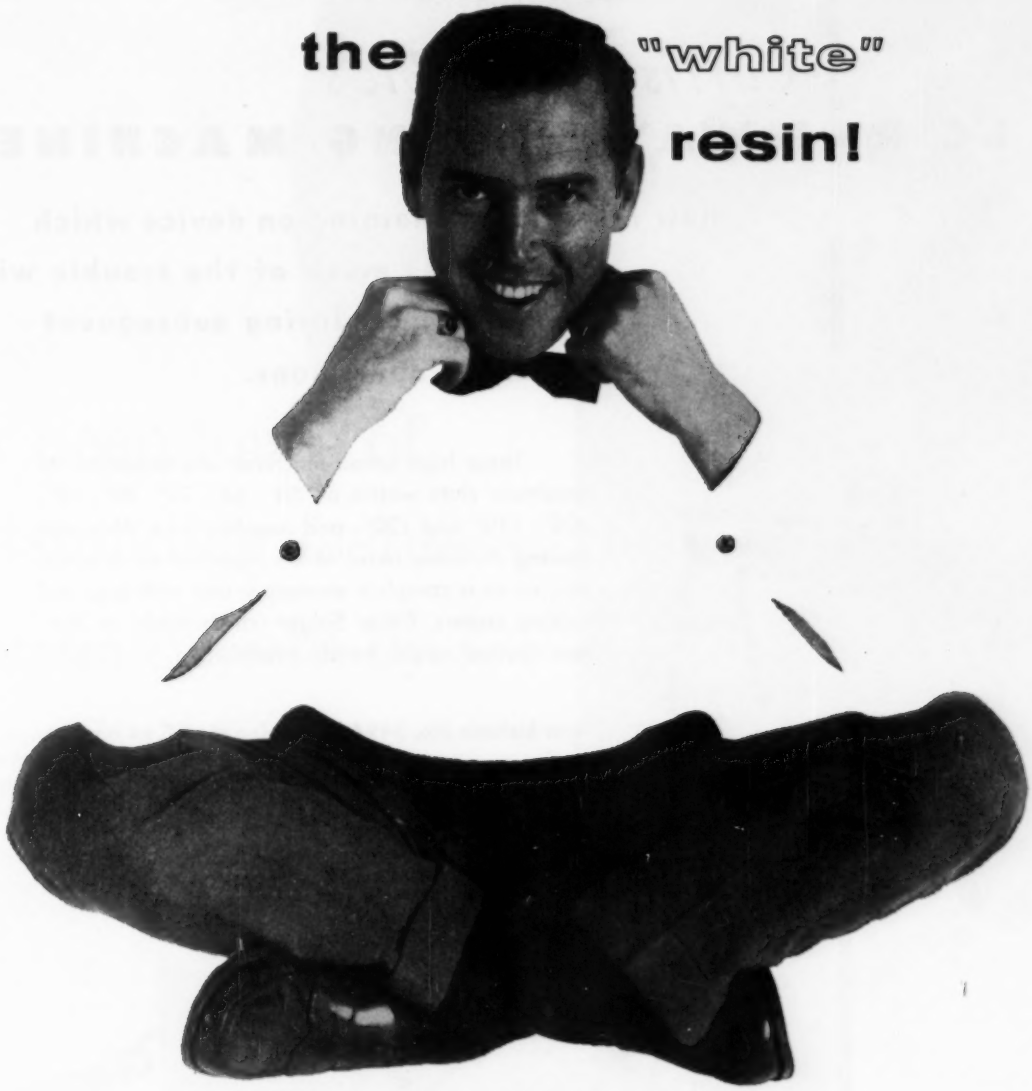

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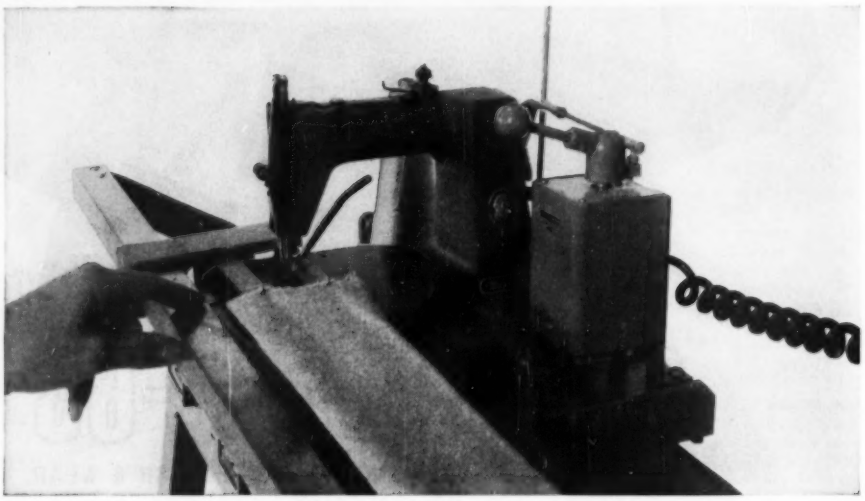
New bulletin No. 349A describing the LC on request.



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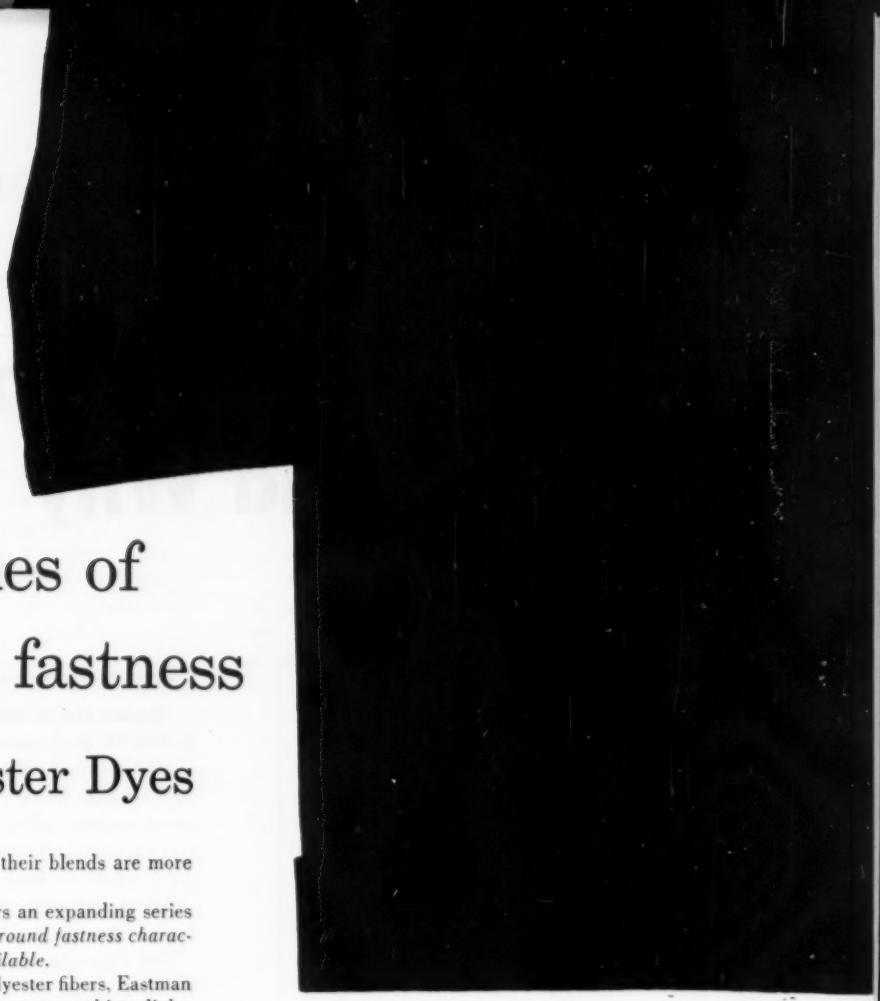

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Equally important are their excellent processing characteristics... good build-up, good exhaustion and outstanding leveling properties. Thus, darker shades of navy, brown and grey are economically obtained.

Dyeing with Eastman Polyester Dyes is easily accomplished with carriers or under pressure at elevated temperatures. Fibers can be readily dyed in tow, tops, stock, or fabric forms. Fabrics of polyester filament can be conveniently dyed in jigs. Fabrics woven of spun polyester yarns alone or blended with cotton, viscose or wool can be easily dyed in dye-becks.

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Eastman Polyester Dyes

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*Try this formula on your next dark brown dye lot.

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5 g./l. o-phenyl phenol type carrier
Material: Polyester
Bath Ratio: 30:1
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CIRCLE 99 ON READER SERVICE CARD

A MESSAGE TO AMERICAN INDUSTRY • ONE OF A SERIES

One Battle We're Losing —And Why

Lest it seem self-serving, we of McGraw-Hill, as publishers, have hesitated to make the following statement about the "Battle of the Books." However, our reticence has been overcome by our conviction that it is greatly in the national interest to have much wider public understanding of the nature of this battle. This conviction is strengthened by the fact that many, not in the publishing industry, believe in the importance of this battle and, further, by the fact that it is a battle which the United States is losing.

The United States is losing an important battle — a battle of knowledge and ideas, waged with books. It does not have the excitement of competition in scientific achievement, nor the urgency of a diplomatic crisis, nor the obvious economic significance of a struggle for export markets. But our success or failure in this battle of knowledge and ideas may well have a decisive bearing on these more spectacular aspects of international rivalry.

The Russians know this. About a decade ago, they started a program to build up their export of books, the most durable and penetrating way of communicating knowledge and ideas. **By 1957 the Soviet Union was exporting 30 million books, one-and-a half times as many as the United States.** Many of these books are printed in English, and all are in languages of the non-Communist world.

In the languages of the Near East alone, the Russians printed and distributed 413,600 books in 1957, as compared with 166,415 in 1956. In India, Russian textbooks on engineering are to be published in English under a technical aid agreement signed in Moscow last December.

"Trade Follows The Book"

Books are in the advance guard of the Soviet political and economic challenge to the free world. With books go ways of thinking — about government, about education, about management, about science and technology. If these books do their job effectively in the training of those who will become a nation's leaders, they will provide the basis for political and cultural understanding and also, in the future, for trade.

The Russians are not the first to discover this relationship. Britain, which lives by trade, has traditionally exported more of its book production than any other nation. Today it exports one book in every two produced. The British have a favorite dictum: "Trade follows the book." They have proved its accuracy. Now the Russians are trying to make this same principle serve their purposes.

Where does the United States stand in this competition for men's minds? In number of books, it trails far behind the Soviet Union — exporting roughly 20 million books, against the Russians' 30 million. As a proportion of our total output of books, our exports amount to only 10% — against Britain's 50%

The Russians' Advantage

U.S. book exports have grown in the years since World War II, from approximately $11,000,000 in 1946 to $35,000,000 in 1958 (both figures excluding Canada). But in expanding book exports, the American publishing industry faces two major obstacles

(1) **The comparatively high cost of producing a book in the United States,** which puts its price well beyond the reach of many students, teachers and businessmen in other countries; and

(2) **The shortage of dollar exchange in many countries,** which means that importers can pay for

books only in currencies that are of little use to American publishers.

The Russians have neither of these problems. Soviet publishing is state-subsidized, and exported books are sold for nominal sums paid in the currencies of the importers. As these books serve the political and economic purposes of the Soviet Union, they are cheerfully sold on giveaway terms.

The American publishing industry, on its own, is making vigorous efforts to increase the distribution of American books in other countries. Leading U.S. publishers and their agents have offices and salesmen in the major countries of Asia, Africa and Latin America. Several publishers have begun to reprint textbooks in Asia at one-half to one-third of their U.S. costs, thus making them available to the students in Asian countries at prices they can more nearly afford. And the American paperback has become a symbol of low cost in popular books. But neither of these devices is practicable for serious cultural, technical, scientific, educational and professional books, which require durable, hard-bound and necessarily expensive editions. Despite their great importance to those who need these books, the demand for them is simply not large enough to warrant low-cost publishing methods.

Government agencies also have increased the availability of American books. The United States Information Agency and the International Cooperation Administration have placed American books in libraries overseas, donated them to educational institutions and presented them to key individuals in the industries and governments of the developing countries of the world. But these programs are small in relation to the need.

A Modest Program

An unusual and little-publicized Government program has helped American publishers overcome the other major obstacle to the export of books — the shortage of dollar exchange. This is the Informational Media Guaranty (IMG) program, administered by the United States Information Agency. It enables publishers of books judged to be worthy of the American way of life to sell their books, for local currency, in countries such as the Philippines, Formosa, Vietnam, Burma, Indonesia, Pakistan, Turkey, Israel, Poland, Yugoslavia, Spain and Chile, which would otherwise be unable to buy these books because of their shortage of U.S. dollar exchange.

The IMG program is not a giveaway. Publishers have to **sell** their books, and customers overseas have to want them enough to **buy** them at full prices. IMG merely guarantees that the exporting publisher receives in dollars the payments he collects from his customers in their currency. The program costs very little in terms of our total foreign aid program, or in terms of what it accomplishes. In ten years it has made possible the sale of $150 million worth of books, magazines and films to countries of key economic and strategic importance at a cost of only $10 million.

The IMG functions through a revolving fund. Foreign currencies are exchanged for dollars, and the foreign currencies in turn are resold to replenish the supply of dollars. The net cost is the small but unavoidable loss on resale of these foreign currencies. Over the ten years of this program, the IMG revolving fund has shrunk from its original $28 million to $18 million, $10 million of which is in unconverted foreign currencies.

If this modest but vitally important program is to be continued, Congress must appropriate the money necessary to rebuild the revolving fund. This would ensure that any country approved by the State Department and willing to sign an agreement to buy American books, at their full price, with its own currency, could do so. Last August, Congress reduced a requested appropriation for this purpose from $7 million to $2½ million. To continue even at its present reduced level, an appropriation of $3½ million is needed. To realize the full potential of IMG, the revolving fund must be restored to its original level.

If the IMG program is not continued, with adequate financial support, some countries whose friendship and understanding we seek today and with whom we hope to build a trading partnership in the future will have to reduce their purchases of American books to a trickle. These are countries where school teachers, college professors, students, engineers, doctors and businessmen need and want to buy American books. The loss will be not only theirs, but ours as well. For it will deprive the U.S. of one of its most effective, and least costly, means of communicating knowledge and ideas and understanding of the American way of life.

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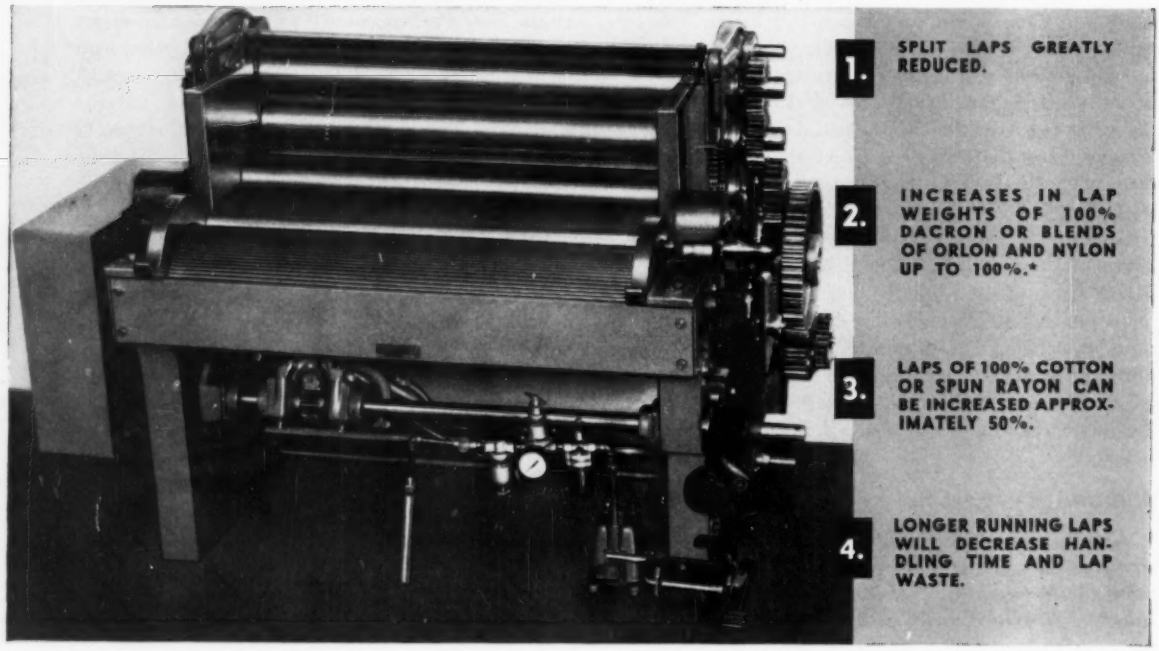
Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

Running synthetics and blends?

SACO-LOWELL HIGH COMPRESSION CALENDER ROLLS will give you these 4 profit making advantages.


1. SPLIT LAPS GREATLY REDUCED.
2. INCREASES IN LAP WEIGHTS OF 100% DACRON OR BLENDS OF ORLON AND NYLON UP TO 100%.*
3. LAPS OF 100% COTTON OR SPUN RAYON CAN BE INCREASED APPROXIMATELY 50%.
4. LONGER RUNNING LAPS WILL DECREASE HANDLING TIME AND LAP WASTE.

This new Saco-Lowell changeover for synthetic mills has proven it can cut costs and improve card sliver. It will increase the operating efficiency of your pickers and cards substantially. Write for complete information.

**Based on actual mill installation figures.*

THE STANDARD OF QUALITY AND PERFORMANCE Since 1813

SACO-LOWELL REPLACEMENT PARTS DIVISION
SACO-LOWELL SHOPS
Executive and Sales Offices — GREENVILLE, S.C.
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"What's in It for Me?"

• Spoken or not, that's the question in an employee's mind when he's confronted with a new situation on the job. A supervisor who anticipates the question and answers it adequately can win acceptance of changes that would otherwise meet resistance.

By **AUREN URIS,** Research Institute of America

"Love at first sight," points out the philosopher, "is a great timesaver." Unfortunately, on the job, we can't count on employees' quick acceptance in any such unreserved way.

You tell an employee, "Next month the department will have a new type of machine for your operation." Almost automatically the response is, "What does that mean to me?"

And the same question comes up when you announce a new policy, new procedure, new company rule, or a program of cost cutting, safety, or quality control.

The Principle of Self-Interest

It's only the new supervisor who frets at what he feels is a "narrow-minded view" or "suspiciousness." The experienced supervisor is perfectly willing to accept the logic of the employee who wants to know, "What's in it for me?"

Further, it's the capable supervisor who anticipates the question and learns to do two things:

1. He points out in specific terms just what *is* in it for the employees when a new effort or a new situation is in the making.

2. When he realizes the answer may be unsatisfactory to the employee, he goes on to explain the reasons behind the new situation. His objective is to make the employee conclude, "There may be nothing good in it for me, but I understand and go along with the need for the move."

Spelling Out Some Answers

There are many situations that you face day to day, week to week, in which one way or another you're called on to answer the "What's-in-it-for-me?" query. In many of these situations, of course, the question is never spoken. But even then it hangs in the air like a dark cloud, and unless you can deal with it properly you are handicapped in whatever it is you are trying to accomplish.

Just think of some of the circumstances in which you have to undertake something that generates that key question in the minds of your people. For example, the supervisor of a processing department recently had to tell his people. "To make sure that we don't contaminate any of the fluids we handle, we are all going to wear uniforms that the company will supply."

The groan went up: "Why do we have to wear monkey suits?"

Of course, despite the change in wording, what they were really asking was, "What's in it for me?"

To answer that question adequately, a supervisor has to consider three factors:

1. Explanation. A key portion of your reply must cover the background of the situation, the reasons that led up to the move.

2. Short-range implications. Here you must touch on what the consequences will be now—today, tomorrow, next week.

3. Long-range implications. In many cases, the consequences of a proposal may change radically with time. For example, you think it would be a good idea for an employee to go to night school and take a beginner's course in chemistry. Short-range, he'll be inconvenienced by the need to set aside the classroom time, the time spent traveling, and so on. But long-range, he will have improved his earning capabilities.

When It's Crucial

In some cases, giving your people a satisfactory answer to "What's in it for me?" can make a major difference to the success of an effort you want the group to undertake. Not one but many of your people may be waiting for the answer. For example:

Let's say you were confronted by a situation similar to that of the supervisor who had to explain why the company wanted employees to wear uniforms on the job. Here's how he covered the three factors:

1. Explanation: "Too many batches of material have been contaminated, and customer complaints have increased in the last six months. Investigation showed that the contamination came from dirt, dust, and grease from our clothing. The engineering department experimented with several methods for screening the material. None of them worked, because often the contamination was soluble and passed through the screen."

2. Short-range-implications: "There may be some problems getting used to the new routine, but they should last for only a week or so. There may be some people who are just opposed to the idea of wearing the same kind of outfit everyone else wears. But in other companies where uniforms are worn, after a while everybody

CONTINUED ON PAGE 146

Who...

can now afford not to modernize?

The headlines tell the story. Today's most successful mills are those actively engaged in modernization programs. Such companies take full advantage of the savings and cost reductions made possible by advanced machines and methods.

Fortunately, such modernization doesn't always involve widespread replacement of present equipment. For example, many progressive companies completely revitalized their weaving operations at surprisingly low unit cost, simply by installing UNIFIL® Loom Winders *on their existing looms.*

By so doing, they brought the entire process of filling yarn preparation right to the looms. UNIFIL Loom Winders wind the quills, load the shuttles, strip and return empty quills to the winders — all in one continuous, automatic cycle.

Obviously, the combined savings made possible by such a system can't help but speed up pay-off of the investment.

Small wonder then, that by the end of 1959, UNIFIL-equipped looms will be weaving in excess of half a billion yards of cloth per year. The reasons are simple and profitable: lower weaving costs . . . improved fabric quality . . . greater loom versatility. Have *you* looked into UNIFIL Loom Winders' story?

A few of the many progressive companies that are modernizing with Unifil Loom Winders

Amerotron Corporation
Berkshire-Hathaway, Inc.
Burlington Industries, Inc.
Cannon Mills Company
Cone Mills Corp.
Dover Mill group
Drayton Mills
Exposition Cotton Mills Company
Greenwood Mills
Judson Mills
Laurens Mills
Marion Manufacturing Co.
Ponemah Mills
Riegel Textile Corp.
J. P. Stevens & Co., Inc.
United Merchants and Mfrs.
Woodside Mills

The Versatile Weave Room is the Unifil®-Equipped Weave Room

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UNIVERSAL WINDING COMPANY
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BOSTON · PHILADELPHIA · CHARLOTTE · ATLANTA · LOS ANGELES · MONTREAL, HAMILTON, CANADA

Use a Magnet To Check Static in Fabric

We determine the static-generating potential in a fabric by means of a 3½-in. circular magnet set up as shown in the sketch.

The magnet is mounted on a wooden base, and a plastic disk is fastened into the top of the magnet with a small bolt.

The indicator arrow is made up of steel wire for the lower half and a plastic rod for the upper portion. The arrow is mounted on the plastic disk so that it will turn freely.

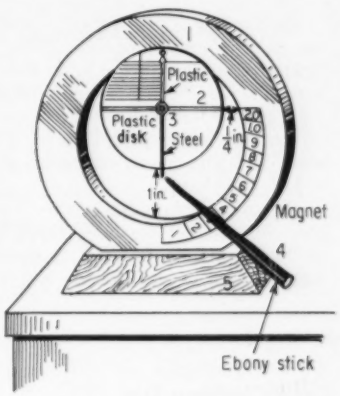
An arbitrary scale graduated from 0 to 10 is laid out on the plastic disk or the face of the magnet for reference purposes.

To check the static-generating potential of a fabric, rub it briskly several times with the ebony stick. Place the end of the stick against the lower right end of the indicator arrow, and move the stick to the right.

When the magnetic field overcomes the attraction of the indicator for the ebony stick, the indicator will fall away from the ebony stick. At just this point the operator notes the reading on the scale as shown by the arrow head.

The ebony stick is discharged and made ready for other tests by simply wiping its entire length along the palm of the hand.

We have found this instrument invaluable in checking the efficiency of antistatic finishes applied to hydrophobic-fiber fabrics. (K-4096)



This Gauge Determines Rate of Traverse in Warping

Whenever you are using sectional warpers that have a fixed incline, the rate of traverse of the warping reed has to be adjusted according to the number of yarn used. An incorrect traverse will produce slopes upwards or downwards, which in turn will give trouble during the weaving operation.

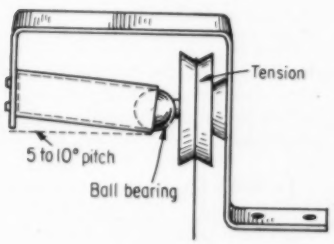
A gauge made from a metal triangle with an angle equal to that of the incline will help to check the rate of traverse.

At the beginning of warping, set the rate of traverse and continue warping until the section is about ⅜ in. thick. Stop the machine and check your traverse by means of this triangle. If the triangle's side is flush with the threads of the section, then the rate of traverse is correct.

But if there is a gap between the triangle and the thread, your traverse has to be adjusted accordingly. Continue checking periodically on all sections to obtain an even warp. (K-3597) *H. Eiger, Tel Aviv, Israel*

Gravity-Activated Compensator Keeps Tension Even

In our plant we used to have trouble keeping the right tension on yarn as it was knitted. Springs and weights gave a constant tension but did not compensate for extra drag that occasionally increased the tension.



The problem was solved by building a gravity-activated compensator from a 10/16-in. metal tube and a steel ball bearing that would just fit inside the tube.

The tube is mounted at a 10° angle so that half of the bearing rests against the tension as shown in the sketch. When the yarn drags, the ball bounces back into the tube and tension is lessened. Angle of the tube can be varied to suit conditions. (K-3997)

How To Extend Life of Dick-Tension Posts

When we run some qualities of yarn on quilling machines where disk tensions are used, the yarn has a tendency to cut the porcelain post at the center of the tension. Then the tension has to be replaced.

We found that we could double the lives of posts by simply inverting them. This change puts the cut part on top, and the same post can be used again. (K-3912) *Joseph A. M. Sewesky, Berwick, Pa.*

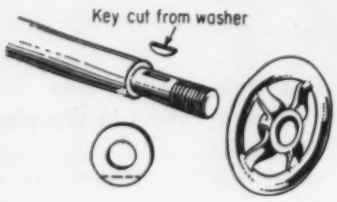
Welded Bent Steel Rod Makes Permanent File Handle

You can make a permanent handle for a file from a piece of steel rod. Use a piece of ⅜- or ½-in. rod 7 to 8 ins. long.

Bend the rod to form a horseshoe, and weld it to a file as shown in the sketch. The resulting handle will fit your hand comfortably. The file can also be hung by the loop.

The rod handle is better than a wooden handle because it will not come off and injure your hand. (K-4086) *John Rzeszutek in The Lincoln Stabilizer*

Improvised Key Keeps Knitting Machines Running



Sometimes half-moon keys on our knitting machines wear out; and if replacements are not in stock, downtime is the result.

The last time this happened I improvised a key by cutting off the edge of a washer and inserting it in the keyway. The repair can be made in seconds, and practically no production is lost. (K-4083)

Portable Emery Wheel Is Made in Mill Shop

We often need an emery wheel in the various departments of our mill. Formerly we had to go to our mill machine shop each time we needed to grind a rod, pipe, or other object.

But recently we made a portable stand and mounted an emery wheel on it. The stand base is a piece of flat iron 14 ins. square and ½ in. thick.

Four casters 3 ins. in diameter are bolted to the bottom of the base. Two of the casters are standard, and two are swivel casters so that the base can be guided as it is rolled about.

To the center of this base, a 6-in.-dia. pipe 36 ins. long is welded. A second piece of iron the same dimensions of the base is welded to the other end of this pipe for the top.

This top piece is drilled for ⅜-in. bolts, and a common emery wheel is bolted to it.

The over-all stand and emery wheel are light enough to move easily but are heavy enough to hold sturdy during the grinding operations. (K-3143)

Packing Crate Is Used To Keep Card Clothing Dry

In modernizing our card room, we were troubled about what kind of floor to put down. We had to choose between a completely wooden or cement floor and a floor made partly of wood and partly of cement.

Cement floors beneath the cards cause moisture to form and rust the clothing. Wooden inserts in the floor under the machines are not practical because of changes in machine layout that have to be made from time to time.

We solved the problem by putting down a 100% cement floor and setting the cards on the bottom of the wooden packing cases in which they were shipped. The wooden pad doesn't have to be bought or cut to size, and it protects the underside of the card from moisture.

When the room has to be rearranged or expanded, all we do is move the pad to another location and set the card on it. (K-3245) *Mayfair Loka, Hong Kong*

$25 KINK WINNER

The $25 prize for the best Kink in May was won by:

C. J. Birch, Charlotte, N. C., for his kink "New Fabrics Made With Short Chains."

WATCH FOR NEXT MONTH'S WINNER

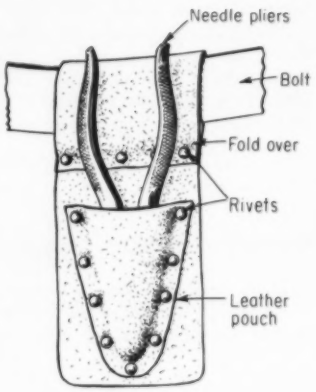
Piano Wire on Screwdriver Starts Hard-To-Reach Screws

When screws, especially small ones, have to be started in awkward positions, they are hard to hold. However, an ordinary screwdriver will hold them in position if a piece of piano wire 3 ins. long is fastened to it.

Place the end of the wire even with the end of the screwdriver blade and bind it in this position with a few rounds of friction tape.

To use the tool, insert the slot in the screw head between the wire and the edge of the screwdriver blade. When the screw is started, you can pull the screwdriver away from the screw easily and then run up the screw in the normal way. (K-3246) *W. E. Warner, Essex, England*

Carry Needle Pliers In a Leather Pouch

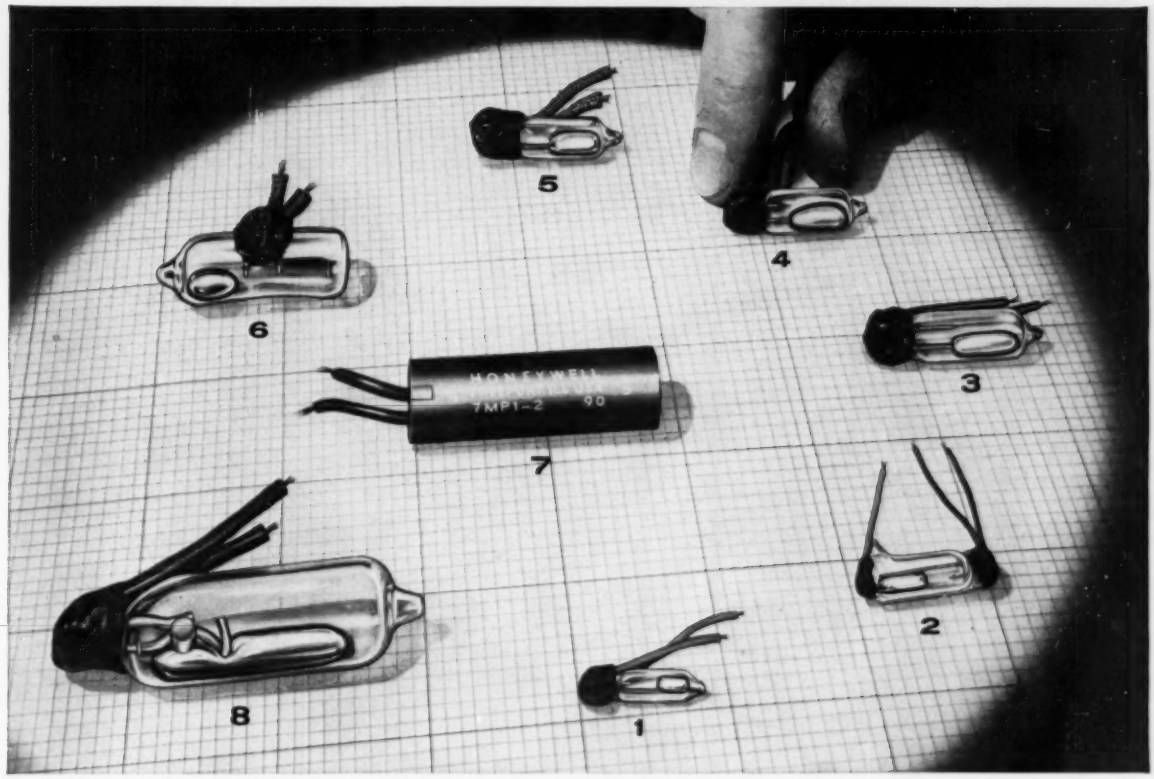


Knitting needle pliers are sharp instruments, and they often do damage when they are carried in the pocket. A leather pouch can be made so that the pliers can be carried on the fixer's belt.

To make the pouch, use a piece of leather about 2 ins. wide and 6 ins. long. Fold one end of the leather to leave a loop wide enough to slip on the belt. Use copper rivets to fasten the folded piece to the main section of the pouch.

Cut a small piece of leather, and shape it as shown in the sketch. Rivet this piece to the larger piece of leather, but leave the top open to drop in the pliers. The pliers will always be at hand, they won't get mislaid, and they won't do damage. (K-3505)

MICRO SWITCH Precision Switches



Long-lived, environment-free mercury switches for textile mill electrical controls

1 AS419A1—Length: 0.90″. Combines smallest available size with long life and reliability. Weight: 0.9 gram (without leads). Tube diameter: 0.174 nominal. SPST.

2 AS603A1—Length: 1.060″. Ultra small, super-sensitive, sealed. The most precise mercury switch available. Weight: 3.5 grams (including leads). SPDT.

3 AS417B2—Length: 1.500″. Offers small size with 3 amps. capacity at 115 vac or vdc.

4 AS408C1—Length: 1.375″. Nominal rating of .25 amp. at 1.5 vac or vdc, also operates in micro-volt and milli-ampere ranges.

5 AS408D1—Length: 1.375″. An economical switch widely used in appliances and vending machines. SPST. Rating: 1 amp., 115 vac or vdc, resistive.

6 AS702B1—Length: 1.625″. Mercury pulse switch has curved glass tube. Used in business machines, counters, timers, etc. SPST.

7 7MP1-2—Length: 1.875″. Embedded in synthetic rubber and enclosed in a nylon can. Resists shock, corrosive fumes, and fungus. Unaffected by oil, water, detergents. Operates in temperatures from −35° to +200°F. 3 amps., 115 vac or vdc, resistive. SPST. Passes 1,000-volt short-circuit test.

8 AS454A34—Length: 2.500″. Medium size. Handles loads up to 10 amps., 115 vac, resistive. Sealed contacts. Low force tilt action. Wide use—machines, tools, appliances, etc.

These switches are entirely unaffected by lint and humidity. They are hermetically sealed so that dust, dirt, moisture and corrosive gases cannot enter the tube. Required operating force is low. Operation is trouble-free.

Precision manufacture gives these Honeywell mercury switches exceptional qualities and characteristics. They represent over 1000 different designs offered by MICRO SWITCH to meet a wide variety of electrical control applications.

Personalized application engineering service is available from branch offices in principal cities. Put this combination of quality, broad line, and service to work for you. Send for Catalog 90.

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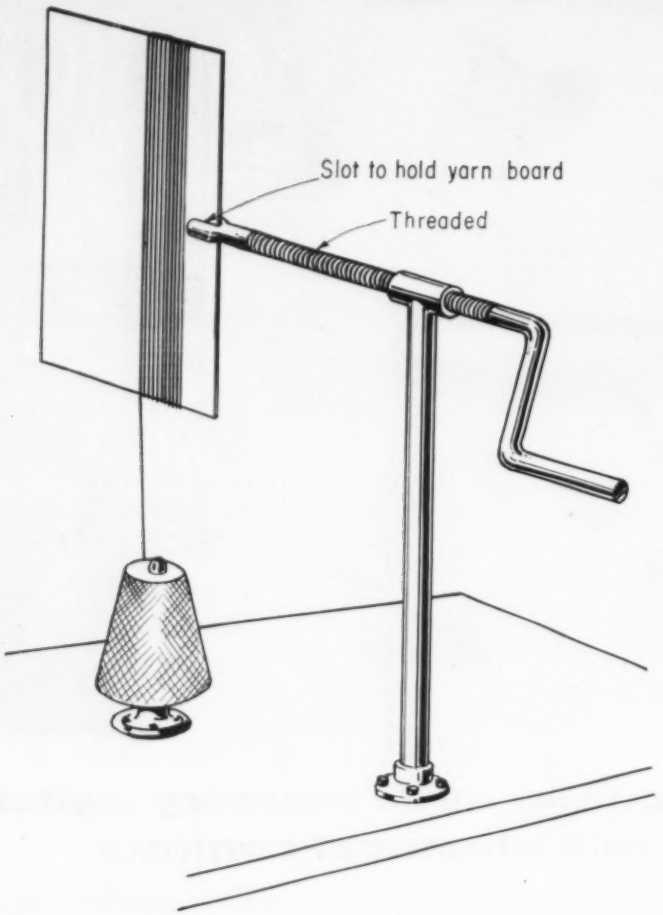
MICRO SWITCH Precision Switches

CIRCLE 107 ON READER SERVICE CARD 107

Threaded Crank Is Used To Wind Inspection Boards



Here's how to make a simple apparatus for winding yarn-inspection boards:

Bend a piece of round $\frac{5}{16}$-in. stock into the shape of a crank, and thread the long end as shown in the sketch. The pitch of the threads should be selected to produce the desired spacing between each yarn warp. Cut a slot in the end of the straight end of the crank to hold the yarn board firmly while it is being wound.

Make a holder from a somewhat larger piece of round stock, and attach a T-shape connection to the top after it has been threaded to correspond with the threads on the crank. Wind the crank through the holder, and stick the edge of a yarn board into the slot.

Attach the yarn end to the board and start winding. The crank will gradually pull the board to one side as the yarn is wound evenly. (K-3661)

Bend Tubing Without Kinks

If you don't have production machinery for making bends in light tubing, try one of these two ways to get a good bend without flattening the tube:

1. Wrap the tubing with soft soldering wire $\frac{3}{16}$ in. in diameter, and bend the wrapped area over a suitable round object.

2. Fill the tubing with fine wire, and bend it to shape over round stock. (K-3976)

Use Spring-Metal Band To Pack Sock Bundles

We formerly used metal rivets for pairing up and packing socks. The rivets were not too satisfactory; so we developed a new system that permits us to pack up to 24 socks with one spring-metal band.

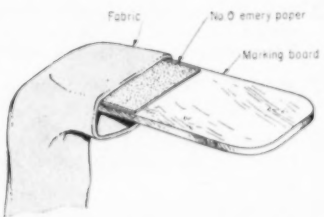
The band is made from 18-in. semi-hard wire $\frac{5}{8}$ in. thick bent to conform with either 12 or 24 socks, depending on how they are to be packed.

A big advantage is that the spring-metal bands can be used over and over again. (K-3676) *H. J. Haas, Martinsburg, W. Va.*

Rubber Band Around a Nut Holds It Tight in Wrench

When a nut has to be started on a bolt in a hard-to-reach place so that you must hold the nut in the socket of a wrench, it's a tough job because the nut often falls out. But the nut will stay tight in the socket even when the socket is turned upside down if you snap a small rubber band around the nut before you put it in the socket. (K-3895)

Emery Paper Used To Hold Knitwear for Marking



We were able to speed up the indelible marking of piece ends on knitted fabrics by gluing a piece of emery paper to the marking board as shown. The rough (No. 0 or coarser) emery paper overcomes the tendency of knit goods to move with the marking pencil.

The board also is helpful when you want to count courses or wales because the goods stay put on the emery paper. (K-3915)

TEN-O-FILM starches and synthetics go hand in hand

Looking for a starch that's compatible with the adjuncts you use in warp sizing synthetics? Ten-O-Film is your answer. This chemically modified starch derivative was specially developed to simplify and improve processing of both the new synthetic and natural fibers.

Ten-O-Film brings new economies to sizing operations. It requires less boiling time than conventional starches: Ten-O-Film reaches stable viscosity in 30 minutes and remains stable even under prolonged heating and circulation. Desizing can be carried out more readily, hence more economical dyestuffs can be used and with greatly reduced bleeding. The clarity of Ten-O-Film sizes will not mask the bright or pastel shades so widely used in modern fabrics. In desizing, the soap boil-off may sometimes replace the enzyme desizing process.

These are only a few of the advantages of using Ten-O-Film starches. Our technical representative will give you the complete Ten-O-Film story. He has tried and tested formulations for all popular synthetic and natural fiber blends.

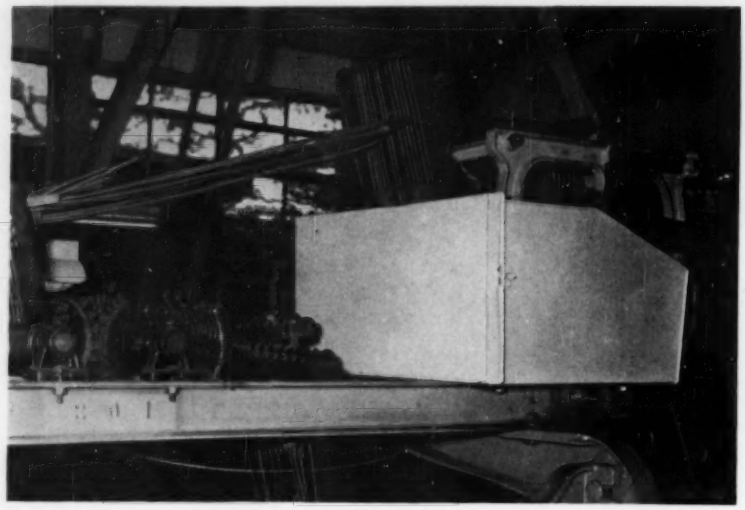
The technical facilities of the world's largest corn processors await your call. These facilities include laboratories devoted to continuing research in textile technology, as well as unmatched sources of firsthand textile knowledge and experience. Our technical representative will be glad to help you take advantage of these resources. For full information, call our nearest sales office or write direct.

TEN-O-FILM® starches

Fine products for the Textile Industry: CLARO® · GLOBE® EAGLE® · FOXHEAD® · TEN-O-FILM® starches · GLOBE® dextrines

CORN PRODUCTS SALES COMPANY 17 BATTERY PLACE, NEW YORK 4, N.Y.

Cover for Loom Dobby Keeps Fabric Clean



Oil from our loom dobbies used to splash on the fabric being woven; and on many types of cloth, the spots cannot be removed.

We completely eliminated all oil spots from our fabrics by enclosing the lower sections of our dobbies in covers as shown in the photograph.

The parts of the cover can be removed to reach any part of the dobby by releasing a spring-loaded latch.

We made the covers in our machine shop and painted them to match our looms. They are very neat, and the cost is small. (K-4023) *Hokao, Fukaya, Fukui-ken, Japan.*

Rubber Washers on Hacksaw Hold Supply of Extra Blades

Maintenance men in our plant such as plumbers and electricians work all over our mill and need a hacksaw on almost every job. But sometimes on a rush job, they forget to carry extra blades for the saw and have to return to the mill machine shop for one when a blade breaks.

We now avoid these delays by having all maintenance men keep extra blades on their hacksaws. The hacksaw frame is taken apart, and two garden-hose rubber washers are slipped over each end of the frame. Then the frame is put back together.

Extra blades are slipped under the washer. Up to four extra blades can be held well out of the way. (*K*-3682)

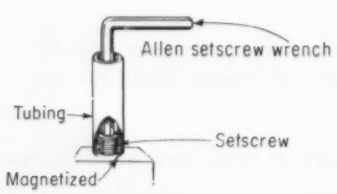
Ammonia Keeps Down Static at Woolen Card

When you are processing very dry wools in an atmosphere of low relative humidity, the rubbing leathers of a woolen card or French draw box frequently make bad roving because static electricity forms on the rubbing surfaces.

One good remedy is to sponge the rubbing leather with a weak solution of ammonia. Aside from being a mild alkali that will remove grease, ammonia is a very volatile chemical and during exaporation it concentrates atmospheric moisture at the point of application. This action overcomes static and should improve your work. (K-122) *H. A. McLean, Yorkshire, England*

Guide Starts Allen Setscrews in Difficult Positions

Hollow-head setscrews often have to be replaced in machines in very hard-to-reach places. But these setscrews can be started easily with a tube guide.



Cut a piece of thin steel tubing long enough to reach your setscrew hole and just big enough in diameter for the screw to slide easily through it. Then magnetize one end of the tubing so that it will hold itself in the correct position over the setscrew hole.

Drop a setscrew into the tubing and run the setscrew up with your regular Allen setscrew wrench. The job is real easy. (K-3241)

Flashlight Holder Makes Work Easier

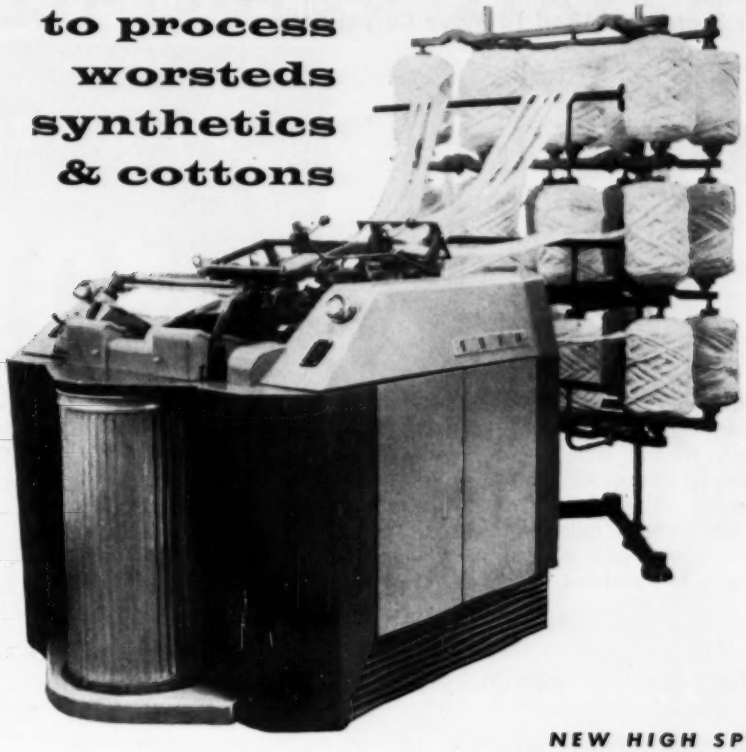
Many times our work is made difficult because we cannot actually see what we are doing. There are places on knitting machines that are hard to get at, and some of them are hidden in dark places where light does not come through.

A regular flashlight and a rubber plumber's friend can save many hours of work. Place the flashlight in the opening in the suction cup and secure it with wire or cord. The connection must be airtight.

Make sure the flashlight swivels so that it can be adjusted to any position needed when it is stuck onto a flat surface of the machine. (K-3789) *H. J. Haas, Martinsburg, W. Va.*

SACM

Superbly Engineered Machinery to process worsteds synthetics & cottons



NEW COMPLETE MILL EQUIPMENT featuring --

NEW HIGH SPEED (PERL) COMB for worsted & synthetic fibres 1) 20% more production than any other French-type comb. 2) Runs at 175 nips per minute. 3) Suction System keeps work clean. 4) Extra-large can delivery. 5) Minimum floor space requirements. Agents for the PERL Comb in the U. S. A. & Canada: Atkinson, Haserick & Co., Framingham, Mass.

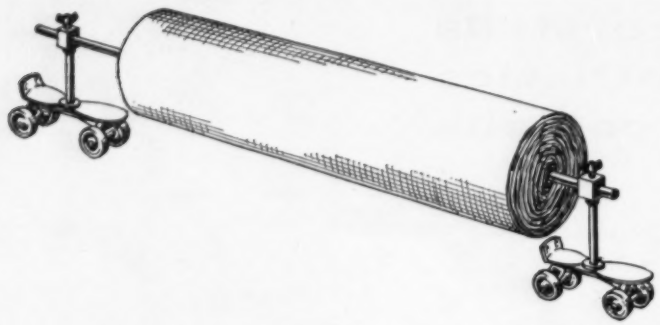
AT THE INTERNATIONAL
MILAN EXHIBITION
Section **G**—Booth **7097-8**
See the PERL Comb, the ER Drawing Frame and a dozen other new machines S. A. C. M. will be showing.

NEW HIGH SPEED (ER) DRAWING FRAME for cotton & synthetics 1) Two-head machine gives higher efficiency, easier settings and remarkable accuracy. 2) Positive guiding of sliver prevents any false draft. 3) Large feeding can means less piecings and handling. 4) Patented drafting systems gives speeds of 120 to 130 meters (130 to 140 yds.) per min. with no lapping, perfect regularity of sliver. Adjustable high-pressure system for all lengths of fibres up to 80mm (3⅛"). 5) Suction System gives cleaner operation. 6) All parts are easily accessible. Descriptive bulletin will be sent on request. In the U. S. A., write to: S. A. C. M., 3 Channing Place, Cambridge, Mass.

Société Alsacienne de Constructions Mécaniques
Mulhouse, France

CIRCLE 111 ON READER SERVICE CARD

Roller Skates Are Used To Move Carpet Rolls

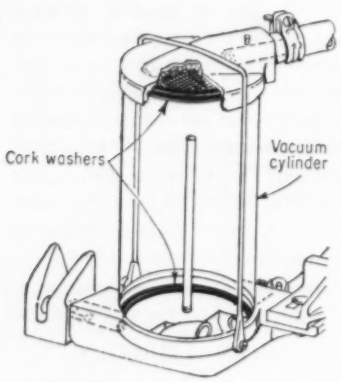


To transport rolls of carpet several feet long, a single dolly often is inadequate. We built dollies to support both ends of a carpet roll as shown in the sketch.

For light rolls, old roller skates can be used by welding a piece of steel underneath to strengthen the shank. For heavy rolls, it is better to use ball-bearing casters mounted on a base to which the upright is welded.

The center bar is a 1-in. steel rod; collars have a setscrew to hold the rod in place. Mount the collars so that they can be turned if necessary to get around tight corners. (K-3855)

Old Take-Up-Roll Covers Make Good Loom Vacuum Seals



On looms with vacuum filling-end removal, the vacuum cylinder sometimes loses vacuum action around the top or bottom.

These leaks can be sealed by washers made from discarded cork-composition take-up-roll covers. One washer is glued at the top cover, and the second is glued at the bottom stand.

We made a steel-ring template to mark off patterns on the cork covering. Then we cut out the washers with scissors. The washers are stored in the mill supply room, and loomfixers order them as they are needed. (K-4051)

Piece of Wire Reduces Breakage at Quill Winder

We used to have a lot of trouble with end breakage at our Schweiter quill winder.

We stopped the trouble by taking a length of $\frac{1}{16}$-in. wire approximately 18 ins. long and bending one end into the shape of a hook and the opposite end into the shape of a pigtail. The over-all length was bent into the shape of an arch.

We then placed the hook end under the cam-box-cover oil screw (Part No. 731) and bent the wire to line up with the end of the package (center of bobbin barrel or cone tip) placed on the lower pin of the creel. Next, we bent the wire until the pigtail was ¼ to ½ in. from the tip of the package.

This arrangement allows the yarn to balloon freely away from the surface of the package and to bypass many slubs and knots that ordinarily would catch on the end and break it. The attachment is especially useful for conical-shaped bobbins and cone packages. (K-3720) *Joseph Sewesky, Berwick, Pa.*

Screws Hold Loose Bolts Securely in Wood Parts

Loose bolts in the wood parts of machines often work loose and therefore will not hold. These loose bolts can be held in place with a wood screw put into the wood at an oblique angle so that it contacts the side of the bolt. (K-3519) *W. E. Warner, Essex, England*

$500 FOR BEST KINK IN 1959

$25 for Best Kink Each Month—Plus $5 to $10 for Every Kink Accepted

A KINK . . . is any idea that will cut costs, improve quality, reduce work, increase production, or make work easier.

You can send in as many Kinks as you want to any month.

All Kinks are paid for on acceptance.

Previously published Kinks are not eligible for prizes. Let us know if you don't want your name published.

Prize winners are selected by TEXTILE WORLD readers. At least 300 will be asked each month to vote on the best Kink that month. In case of ties, duplicate prizes will be paid.

Send Kinks to:
Kinks Contest, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

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FOR PURE FINISH

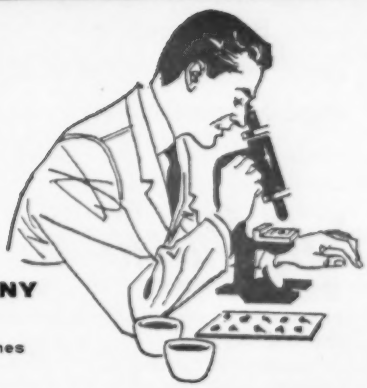
Victor P-40-U

SMOOTHER HAND
BRIGHTER SHADES AND WHITES

FOR BACKFILL

Victor 10-55

MORE MELLOW HAND
ALWAYS UNIFORM • CARRIES MORE TALC



Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
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THE KEEVER STARCH COMPANY
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Processors of corn, wheat and blended starches
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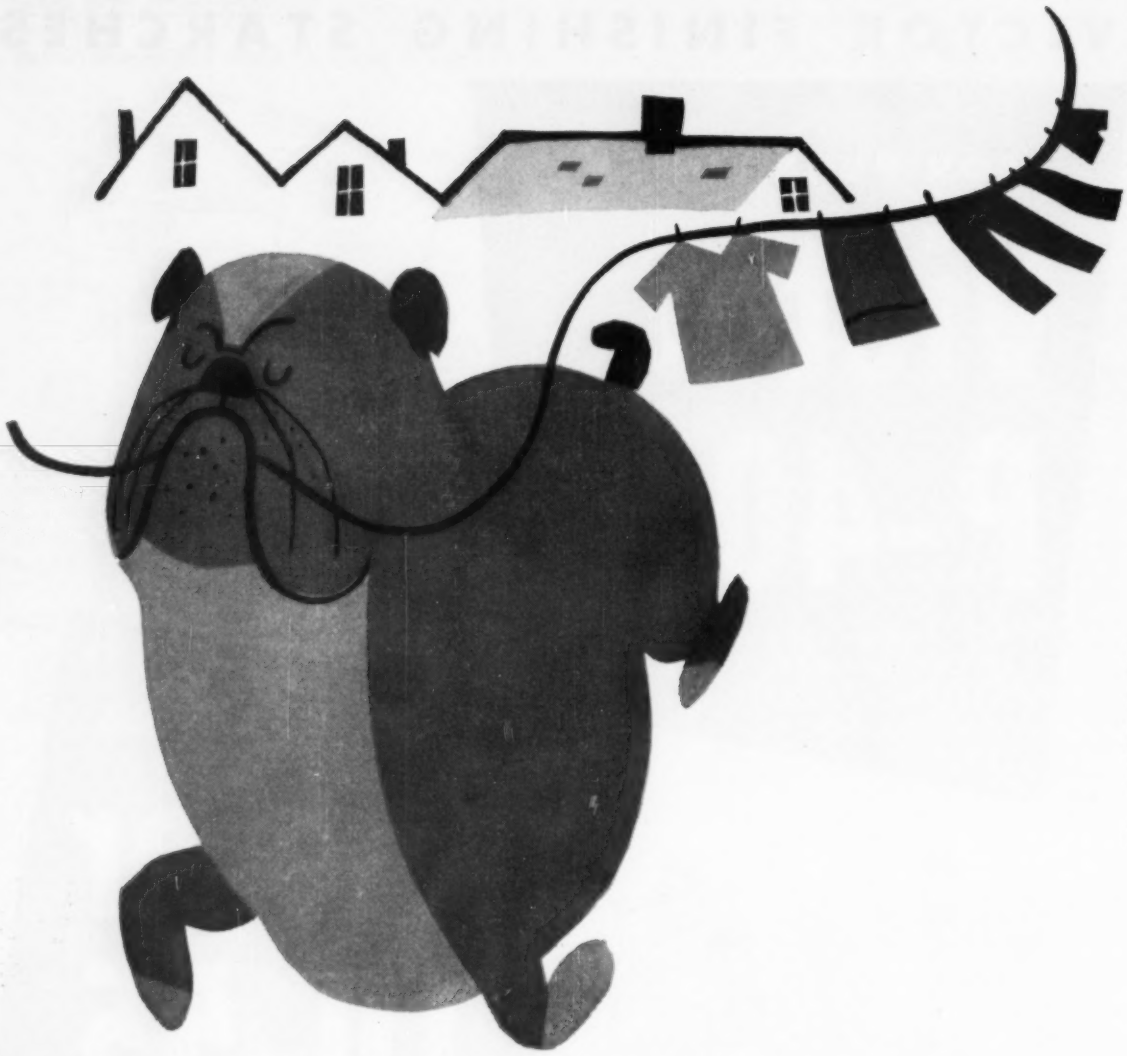
CIRCLE 113 ON READER SERVICE CARD



VISQUEEN TRADE MARK FILM HELPS HOLD THE LINE ON PACKAGING COSTS

Apparel and textile men with a good grip on the situation know they're being dogged every step of the way by rising labor and material costs. Best friend: VISQUEEN film's *uniform* thickness to eliminate thin, weak spots, let you buy the *most economical* gauges. Bulldog tough to eliminate package breakage costs, too. For a cost-cutting packaging program with real teeth in it—call on the experienced men from

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SHOWN AT KNITTING ARTS EXHIBITION

High-Pile Knitting Machine

A high-pile knitting machine knitting coat fabrics was demonstrated by Wildman Jacquard Co., 1210 Stanbridge St., Norristown, Pa. The latch-needle circular jersey knitting machine has individual-motor drive and is equipped with miniature cards.

The FBW-4A machine has a 23-in.-dia. cylinder with four cards and four feeds, and the FBW-6 machine has a 23-in.-dia. cylinder with six cards and six feeds. Standard cut is 10 per in., which produces fabrics to finish at 54 ins. wide.

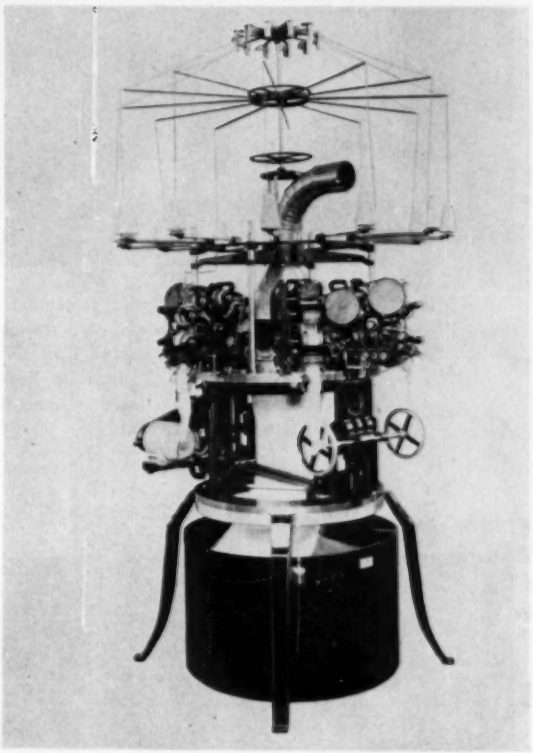
Production is approximately 5 yds. per hr. on the FBW-4A machine and 7½ yds. per hr. on FBW-6.

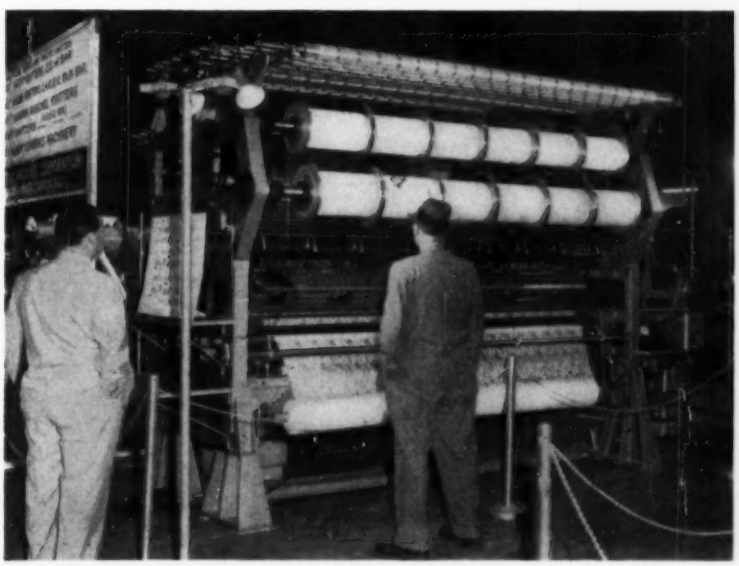
Model FBW-4A can be converted easily to an FBW-6 machine.

A full range of natural and man-made fibers are handled by themselves or in almost any blend. Staple lengths of ¾ to 3 ins. are used in sliver weight from 50 to 300 grains per yard.

Fabric weights and densities can be varied over a wide range by speed adjustment in the cards, and 15 combinations of gear ratios are provided. Weights and densities can also be varied by a change in sliver weight.

End products are high-pile coat fabrics, coat linings, carpets, paint-roll covers, toy fabrics, and others. **Circle T-1 on Reader-Service Card**





24-Bar Raschel Machine

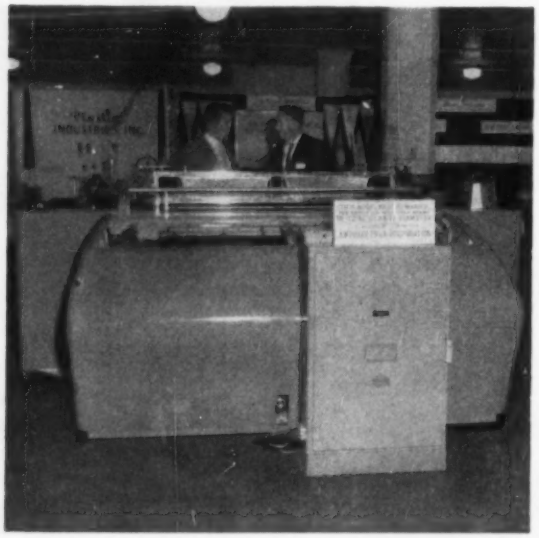
A 24-bar Super Garant raschel machine that can be used as a 2-, 4-, 6-8-, 12-, 18-, and 24-bar machine was shown making a 24-bar overlace pattern with a nylon ground beam and an acetate inlay. The machine is made in Germany and is sold in the U. S. by Mayer Textile Machine Corp., 48 Industrial West, Clifton, N. J.

Machine speed is 320 courses per minute; it makes a 14-needle jump at one stroke; and cams run in a bath of oil. **Circle T-2 on Reader-Service Card**

Flat Knitting Machine

The German-made Stoll Lium links-links, jacquard, single-system transfer, flat knitting machine was running in the booth of Knitting Machine & Supply Co., 3710 Hudson Ave., Union City, N. J. The machine has a 60- or 68-in. needle bed and is made in 6, 8, and 10 gauges. **Circle T-3 on Reader-Service Card**

High-Speed Tricot Warper



A high-speed tricot warper with a Louis Allis Adjusto-Speed Tach-Pac speed indicator was shown by Cocker Machine & Foundry Co., Box 431, Gastonia, N. C. A preset dial brings the machine up to full speed and holds the speed within ±2% with the overspeed control.

The machine takes two 21-in. tricot beams, one 42-in. beam, or one 55-in. beam. It also takes one 30-in. raschel beam. Normal sustained operating speed on all these beams is 600 yds. per min. **Circle T-4 on Reader-Service Card**

Seamless-Hosiery Machine

A dual-feed electronically controlled circular knitting machine, Moretta DR/2, for seamless hosiery was shown by Staroba Mfg. Co. Ltd., 299 W. Adelaide St., Toronto 2B, Ont. The machine has a two-speed motor and air take-down to knit plain, mesh, or stretch hosiery.

It has an attachment for turning hosiery inside out automatically and an attachment that automatically controls the size of the stitch to produce even lengths of hosiery. **Circle T-7 on Reader-Service Card**

Cone Winders

The Schweiter Vario-Coner and Monofil-Coner winders with a new yarn delivery for stretch yarns were shown by H. J. Theiler Corp., Ashmont Ave., Whitinsville, Mass. The yarn can be oiled, if required, in a relaxed state; then it is brought up to the desired degree of tension.

In addition to stretch yarns, wool, cotton, and any other yarn in hanks can be wound on the machine. Yarn is wound to pineapple cones. **Circle T-5 on Reader- Service Card**

Tray Dryer

Preboarded hosiery is quickly dried after dyeing in a tray dryer that was shown by Proctor & Schwartz, Seventh St. and Tabor Rd., Philadelphia 20, Pa. The dryer has two trays that in use are alternately full of hosiery being dried or being loaded with hosiery to be dried. Production is 40 doz. pairs of hose per hour. A self-contained heating system blows air at 180° F. over the hose and dries them in about 3 mins. **Circle T-8 on Reader-Service Card**

Interlock Machine

A pattern-wheel rib-interlock machine was introduced by Supreme Knitting Machine Co., Inc., 94-02 104th St., Ozone Park 16, N. Y. Model IRW/2 is 30 ins. in diameter and has a 12-cut cylinder and dial and 36 feeds. It is also available in cuts up through 16 needles per inch.

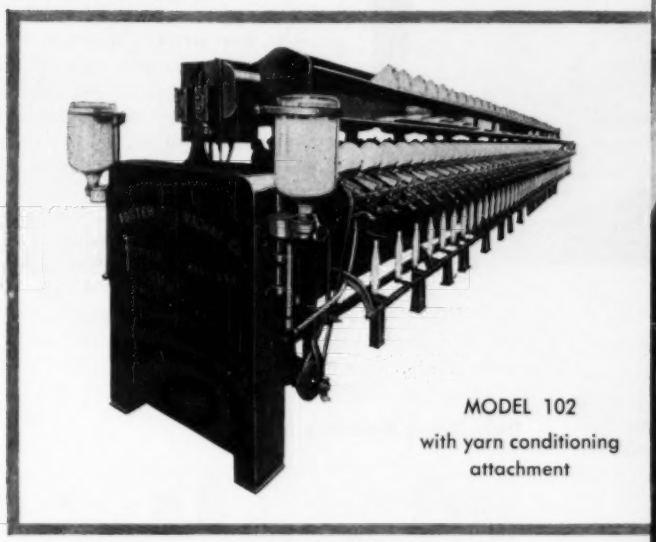
With the 36 feeds, the machine produces 50% more goods than older conventional machines of the manufacturer. In addition, there's about a 50% increase in pattern area.

The dial contains a raceway for rib or interlock work, and the needles of each raceway can be set in knit-to-tuck or knit-to-welt positioning. Therefore practically all outerwear can be made.

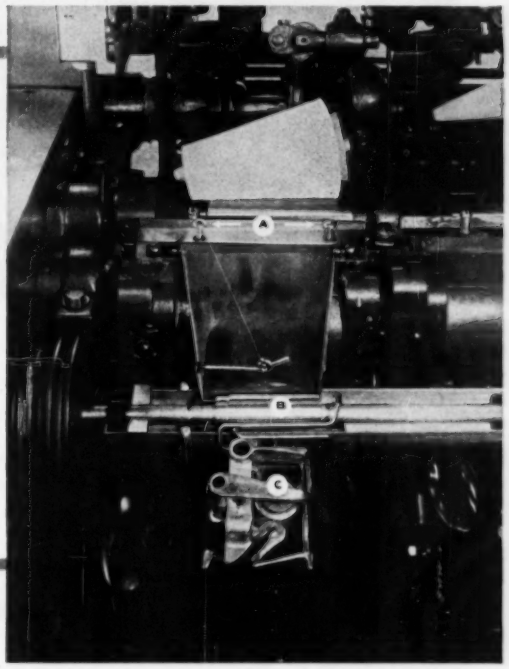
Feeding rolls for rubber yarns are optional so that bathing suits can be made. **Circle T-6 on Reader-Service Card**

FOSTER MODEL 102

. . . For Backwinding Bulk, Stretch and Texturized Yarns



MODEL 102
with yarn conditioning attachment

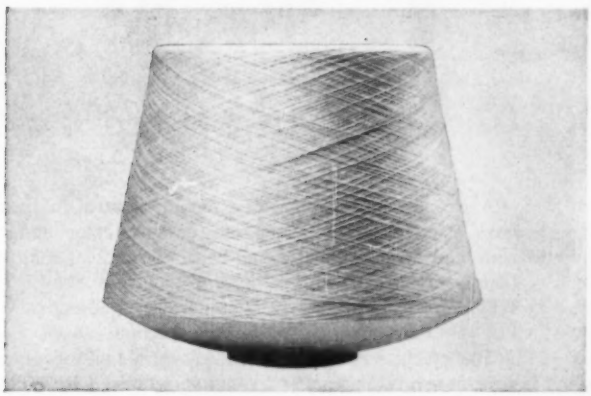


Mushroom buttons (A), moistening attachment (B) and tension attachment (C) on Model 102.

An Outstanding Example of This Machine's

FLEXIBILITY

For many years the Foster Model 102 has been widely accepted for the winding of all types and counts of spun yarns, because of its flexibility, or adaptability, including adjustable angle of wind and adjustable taper. Once again this reputation is confirmed by the machine's recent economical adaptation to the winding of bulk, stretch and texturized yarns.



242-9 Cone of Textralized® yarn wound on Model 102.

In addition to flexibility the Model 102 offers the following: —

QUALITY CONES. The increased taper reduces yarn drag and equalizes tension at all cone diameters. The convex base prevents "nipitis". Highly efficient slub catchers automatically inspect yarn. Ribbon breaker prevents ribbon wind. Idler shell on winding drum prevents chafing of yarn.

ECONOMY. Doubles production and reduces operating costs ⅓, as compared with obsolete machines, due to high speed, self threading tension device, easy donning and doffing and empty bobbin conveyor discharging into standard size truck. Repair costs as low as $10.00 per year per 100 spindles. Simple adjustments which any competent fixer can make.

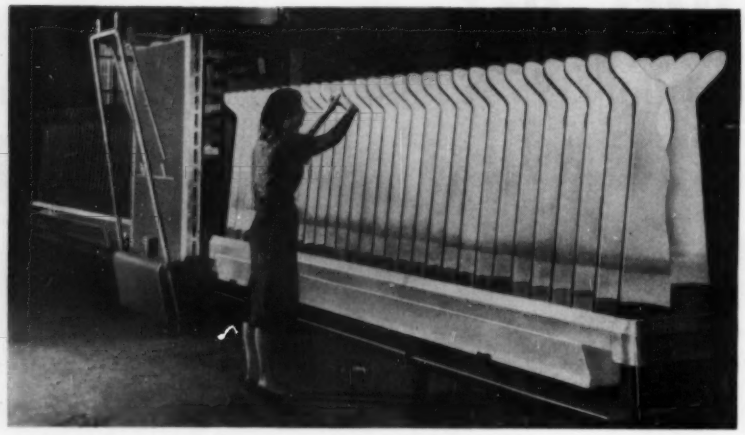
Bulletin A-95-A on request

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

Southern Office — Johnston Bldg., Charlotte, N. C. • Canadian Representative — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • European Representative — Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton Under Lyne, Lancashire, England.



Boarding and Dyeing Machine

Shown by Turbo Machine Co., Lansdale, Pa., was an automatic one-step boarding, dyeing, and finishing machine for women's seamless hosiery.

The machine will produce up to 140 doz. pairs of dyed and finished hose per 8-hr. day with one operator. If it is used for preboarding only, it will turn out 400 doz. pairs of hose in 8 hrs. with three operators. Postboarding, setting, and drying by the Dunn system will yield 270 doz. pairs per 8-hr. day with two operators.

The unit handles 60 pairs of hose per cycle and completes the entire operation of boarding, dyeing, setting, and drying in 8½ mins. **Circle T-9 on Reader-Service Card**

10-Gauge Rib Machine

A 5-in., 84-needle, 10-gauge rib-combination knitting machine with only one dial was featured by Bell Machine Co., 1914 English St., High Point, N. C. The machine knits a new type of welt that keeps elastic from folding around the dial and other hosiery faults.

Production is 7 doz. pairs of men's hosiery per 8-hr. shift. Cushion-sole and striping attachments are available. All needles, sinkers, and jacks are standard. **Circle T-10 on Reader-Service Card**

Delayed-Stitch Knitting Machine

The European delayed-stitch cam arrangement was featured by Wildman Jacquard Co., 1012 Stanbridge St., Norristown, Pa., in its Model TJI-12 machine.

This arrangement of stitch-cam control will allow the knitter to produce tightly knitted full-rib fabrics plus all the many other fabrics that are possible on this versatile machine.

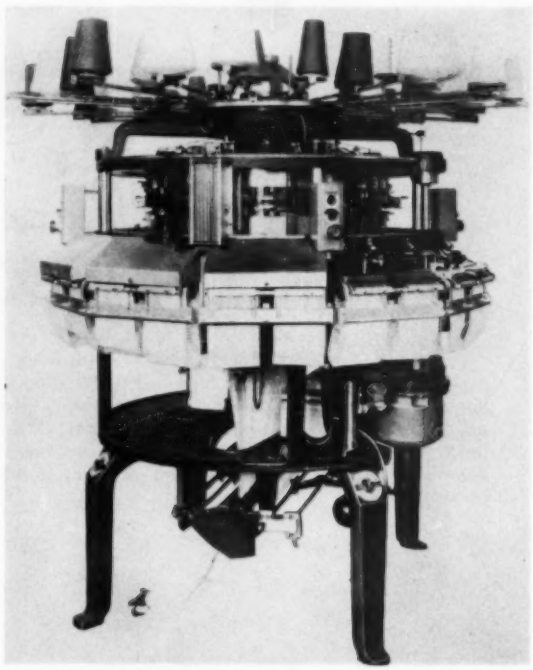
All TJI-12 machines have dial caps that are specially drilled so that the cams can be rearranged to produce high-grade piqué fabrics with 12-feed production. **Circle T-57 on Reader-Service Card.**

Multiblade Yarn Trimmer

Hand trimming is eliminated by a yarn trimmer shown by Scott & Williams, Inc., Laconia, N. H. The attachment is designed so that the yarns enter a notch in the outside transfer cam where they are instantly severed by one of the passing conventional dial fins.

The trimmer is applicable to present KN machines now in operation, either single feed or equipped with auxiliary feed. It will be available on all factory-built machines. **Circle T-58 on Reader-Service Card.**

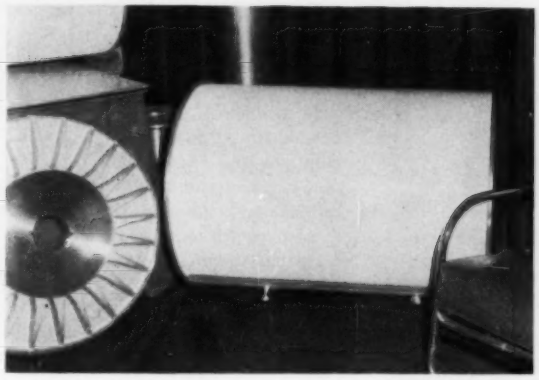
Bulk-Yarn Knitting Machine



A circular knitting machine making fabrics in links-links, reverse jersey, jersey self designs, color designs with and without floats, and various combinations of fancy stitches all with rib-on-rib cuff was shown by Wildman Jacquard Co., 1210 Stanbridge St., Norristown, Pa.

The machine was using bulk yarns in knitting outerwear in several pattern and stitch variations. **Circle T-12 on Reader-Service Card.**

30-In. Tricot Beam



A 30-in.-dia. tricot beam holding 91,000 yds of 30-den. nylon was shown by Hayes Industries, Inc., 437 Fern Ave., Jackson, Mich. The sturdy beam is designed for the new high-speed tricot machines and is said to reduce machine downtime by one-half. **Circle T-11 on Reader-Service Card**

Women's Hosiery Machine

Both single- and double-feed circular knitting machines for women's seamless hosiery were shown by Santoni & Co., represented in the U.S. by John Klein, 385 Fifth Ave., New York, N. Y.

Plain or mesh hosiery can be made on the 400- or 474-needle machines at the rate of 108 or 96 stockings per 24 hrs. respectively on single-feed machines.

The double-feed models produce 168 or 132 stockings in the same period and in that order.

The automatic welt dial is always in place because of special construction. Reinforcements for heel, underfoot, and toe areas are automatically knitted into the stockings, which are drawn off pneumatically when completed. The base of the machine houses the control chains; the motor drives the machine with an endless belt. If a thread breaks during the heel-manufacturing cycle, the machine shuts down automatically. **Circle T-13 on Reader-Service Card**

Slow-Down Speed Control

A Southern Slow-Down device for speed control on its 400-needle women's hosiery knitting machine was demonstrated by Carolina Knitting Machine Corp. Div., Morris Spiezman Co., 508 W. Fifth St., Charlotte, N. C. The device can also be used on other similar machines to reduce knitting speed from 200 rpm. to 600 rpm. within a fraction of a second to reduce reversal shock.

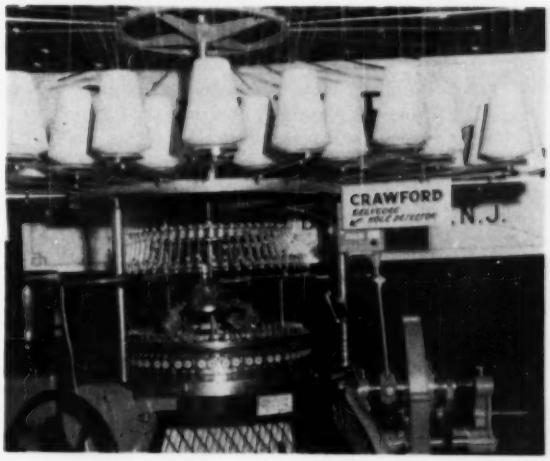
Needle breakage, seconds, and irregular hosiery are greatly reduced with the speed control. **Circle T-14 on Reader-Service Card**

Jersey Machine

A jersey knitting machine, Model DRJ/N, in 20-in. diameter, 28 needles per inch, and 64 feeds was displayed by Supreme Knitting Machine Co., Inc., 94-02 104th St., Ozone Park 16, N. Y. Its most important feature is a double raceway fitted with cams for long and short needles, with the knitting level of each needle independently controlled at any feed.

The machine produces a wide variety of mesh and structured fabrics and textured and surface patterns in cuts through 28 needles per inch at 66 yds. per hr. The long and short needles eliminate barre effects often common on these fabrics. **Circle T-15 on Reader-Service Card**

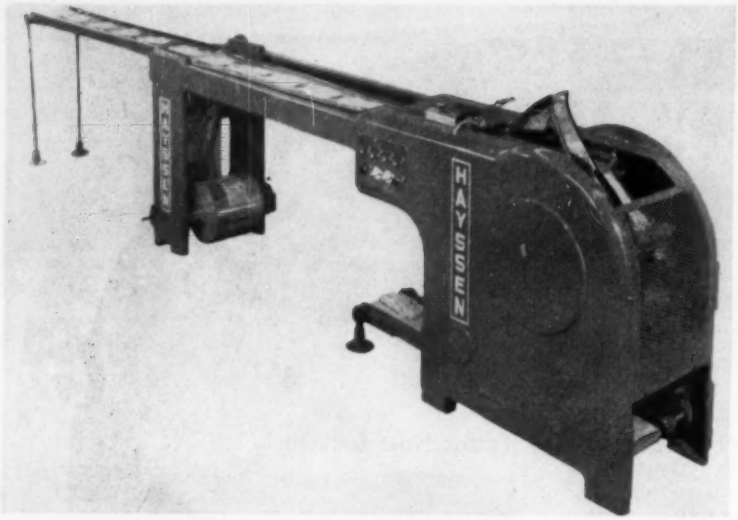
Fabric Hole Detector



A selvage hole detector for circular machines was exhibited by Crawford Mfg. Co., Inc., 10 Dennis St., New Brunswick, N. J. The stop motion has only one wire connection.

With the detector, flat-knit goods can be made by taking out one needle to run selvages. A cam retracts the feeler fingers until the selvage passes the fingers. Then the fingers resume their regular position to pick up damaged fabric all the way between the selvages. **Circle T-16 on Reader-Service Card**

Horizontal Packaging Machine



Nonuniform products can be packaged in any heat-sealing film on a machine marketed by Hayssen Mfg. Co., Sheboygan, Wis.

Articles to be packaged travel on a sheet of film supported by an endless conveyor. The film is folded over the articles and sealed, and the packaged units are delivered from the conveyor at its turning point.

Printed films can be used on the machine, which centers the material to be packaged or acts on the packaging film itself by means of an electric-eye control system.

Two types of sealing heads are available. Resistance-type heaters are used for regular heat-sealing material; and an impulse-sealing method is used for unsupported polyethylene or other plastics. **Circle T-17 on Reader-Service Card**

Wool-Card Jack Spool

A jack spool for wool cards with a ½-in.-thick vulcanized-fibre insert riveted to the inside of the spool head and conforming to the inside of the aluminum barrel was shown by National Vulcanized Fibre Co., Box 311, Wilmington 99, Del.

This improvement acts as a locator and serves as a shock absorber to maintain the tightness of the spool. It provides resilience to absorb sudden shock, bangs, bumps, and drops without loss of spool concentricity. **Circle T-18 on Reader-Service Card**

Tricot and Raschel Beam

A 30-in.-dia. forged-head aluminum-alloy beam for tricot and raschel machines was shown by Milton Machine Works, Inc., Milton, Pa. The beam is said to take twice the amount of yarn now put on 21-in.-dia. beams. It withstands pressure of nylon yarn. **Circle T-19 on Reader-Service Card**

Box-End Marker

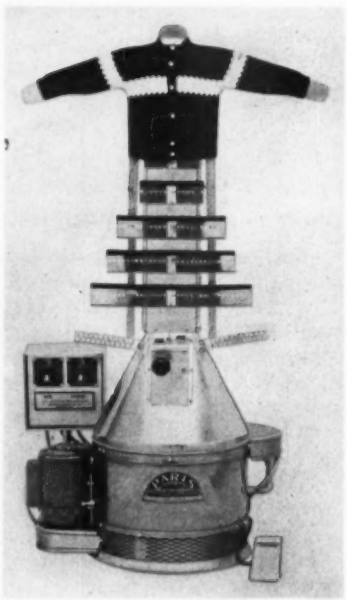
Boxes can be imprinted with pertinent information as to contents by means of a machine demonstrated by Timadco, Inc., 72 Jericho Turnpike, Mineola, L. I., N. Y. Made by Milford-Astor Ltd., the unit features multicolor, instantaneously dry printing. Heated type is used to transfer color from colored foils to the box ends. **Circle T-20 on Reader-Service Card**

Overedgers

Singer Sewing Machine Co., 149 Broadway, New York 6, N. Y., featured a high-speed overedging machine that had a controlled gathering-feed mechanism that permits continuous or intermittent gathering without stopping the machine. The 246-16 model is adaptable to flat and tubular fabrics and is automatically lubricated.

Also shown was Model 246SV11, a high-speed overedger that has an adjustable light-control mechanism that is actuated by knee or foot controls. **Circle T-21 on Reader-Service Card**

Sweater Finisher



An all-purpose sweater finisher was shown by Paris Mfg. Co., Brockway, Pa.

Men's, women's, or children's sweaters can be framed and pressed on the machine. Air and steam are used to shape and set the garments while they are under regulated tension.

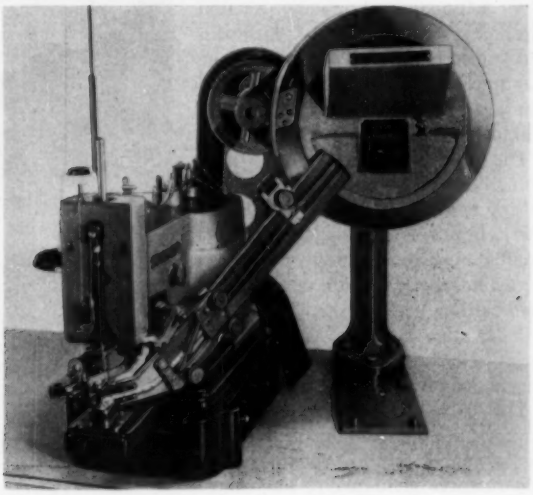
Instantaneous manual adjustments combined with interchangeable top assemblies permit handling all sizes of sweaters. The finishing cycle is automatic; the operator only has to place and remove garments. **Circle T-22 on Reader-Service Card**

Washer-Extractor

Garments may be washed and extracted in a machine shown by Fletcher Works, Philadelphia, Pa.

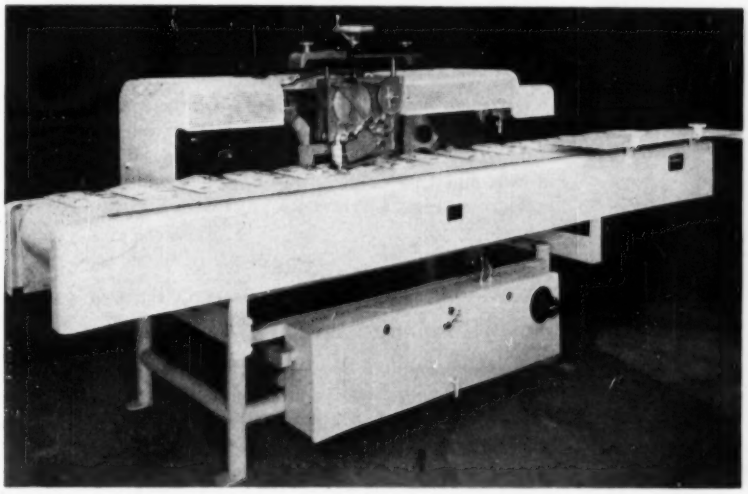
Based on a 48-in. centrifugal extractor, the unit is equipped to provide a wash cycle that provides temperature-controlled water for the removal of oily material in knitted fabrics. Washing and extracting times can be set to suit the fabrics, and the cycle is completely automatic. **Circle T-23 on Reader-Service Card**

Shank Button Feeder



Shank buttons of several types can be fed to the work automatically with the Shankemat, shown by Singer Sewing Machine Co., 149 Broadway, New York 6, N. Y.

Self shank, bar shank, and some round-edge bar shank buttons in sizes 14 through 45 ligne with shanks up to $\frac{3}{16}$ in. thick can be handled by the machine by means of simple adjustments that are made quickly and easily. **Circle T-24 on Reader-Service Card**



Bag Sealer

Polyethylene bags can be sealed and labeled on a machine shown by Carbert Mfg. Co., Cambridge 39, Mass. The unit is adjustable to bags up to 4 ins. thick and seals the bags within $\frac{1}{32}$ in. of the contents. The conveyor operates at up to 1,000 ins. per min. The labeling unit is optional equipment. **Circle T-25 on Reader-Service Card**

For descriptions of other equipment exhibited, see TEXTILE WORLD, March, p. 135, April, p. 141, May, p. 154, and June, p. 129.

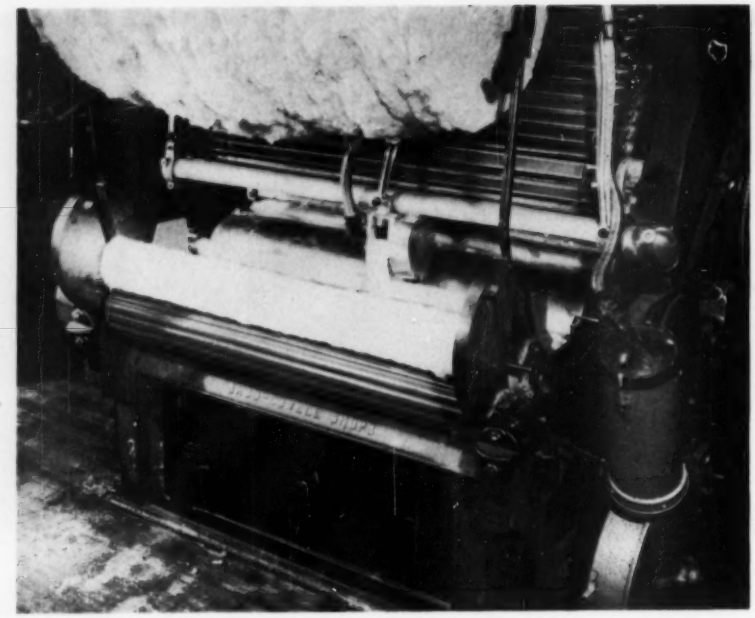
Constant Carding

A self-contained vacuum-suction carding system, developed in Spain and called Constant Card, will be manufactured and sold in North America by Pneumafil Corp., 2516 Wilkinson Blvd., Charlotte, N. C.

The machine, which can be used with any existing cotton-type card and on any cotton, man-made, or blended fiber, improves carding action by maintaining a constant fiber load on the cylinder. This action permits constant carding between the flats and the cylinder and increases the stripping cycle to 120 hrs. Waste and labor are reduced and quality is improved.

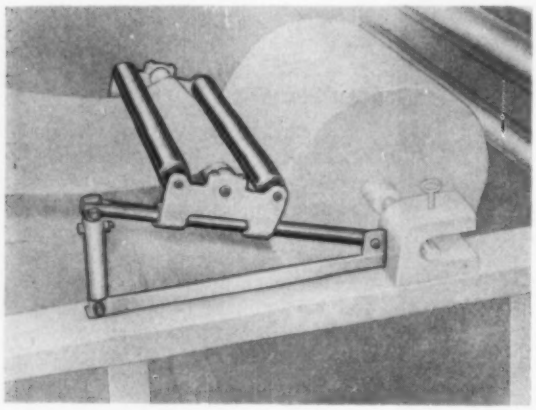
The fiber collector, which slowly traverses the full width of the cylinder, has a high-pressure vacuum nozzle that removes good-quality long-staple cotton from the top of the cylinder wire.

As it is removed, the fiber is condensed into sliver and reintroduced into the stock at the feed roll. Since there is no direct contact between the nozzle and card clothing, possibility of damage to the wire is negligible.



The vacuum generator, driven from the cylinder's spare V-pulley, requires practically no floor space. The flexible transmission system permits the use of full-size laps placed in the conventional manner on the card as shown in the photograph. **Circle T-26 on Reader-Service Card**

Batcher Expander



Smooth, wrinkle-free rolls can be wound with an expander developed by Mount Hope Machinery Co., 15 Fifth St., Taunton, Mass.

The expander operates on an inclined plane and is equipped with idler rolls fore and aft. The after roll rides the goods as they are wound and maintains a controllable surface pressure against it, which prevents wrinkle formation. **Circle T-27 on Reader-Service Card**

Easily Accessible Padder

Rolls may be removed or repaired easily in a padder developed by Riggs & Lombard, Foot of Suffolk St., Lowell, Mass.

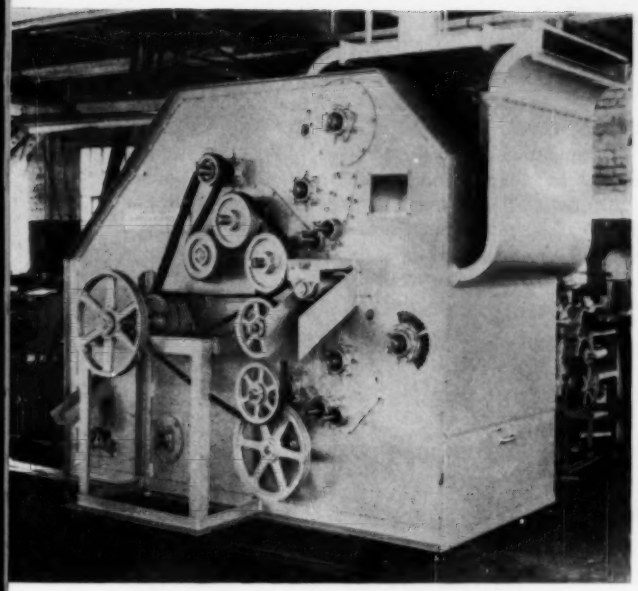
Designed by Cook Machine Co., Inc., a Riggs & Lombard subsidiary, the roll stands are made so that both rolls are completely accessible upon the removal of two pins that connect the top-roll supports with the pressure system. **Circle T-29 on Reader-Service Card**

Plastic Luminaire Lens

A clear one-piece flat plastic lens panel for interior fluorescent luminaires has been announced by Westinghouse Electric Corp., Lighting Div., 1216 W. 58th St., Cleveland, Ohio.

Sold as Optikube, these lens panels are designed as covers for 2x2- and 2x4-ft. luminaires. Reduced ceiling height is possible because the panels provide controlled lighting from a flat prismatic lens.

The lens panels are approximately one-third the weight of glass and have high-impact strength and excellent dimensional stability. **Circle T-28 on Reader-Service Card**



Improved Opening Machine

An improved opener-blender-cleaner machine has been announced by Davidson-Kennedy Co., 1090 Jefferson St., N. W., Atlanta, Ga. The machine, completely enclosed to eliminate fly waste, permits ready accessibility to individual cylinders and all other internal parts.

Cleaning efficiency, from 30 to 50%, depends upon the type of stock used. The machine is efficient in removing pepper waste and leaf. Tests indicate that stock can be improved from one-half to as much as two grades. Spots are blended in, and the whole mass is brightened.

Average waste removed is about 2.5%, of which 87% is foreign matter and 13% is lint.

Machine Specifications:

Sides are constructed of one plate, and top and ends are covered completely.

Flange bearings for individual rolls are mounted so that each individual cylinder can be removed as if it were a plug.

Machine does not have to be dismantled to repair individual grid bars or rolls.

Doffer brush acts as its own doffing fan.

Internal baffling is heavy enamel-coated steel welded integrally with the frame to give rigidity.

Circle T-30 on Reader-Service Card

Aerosol Belt Dressing

A belt dressing in aerosol form to be sprayed on moving transmission belts has been announced by Graton & Knight Co., 356 Franklin St., Worcester 4, Mass. Marketed under the name Sprazon, the dressing is applied safely since a workman's arms and hands are kept well away from moving belts and pulleys.

The dressing can be used on V-belts or rubber, fabric, or leather belts. Spray is applied while the drive is running, and the rotation of the pulley transfers the film to the inner surface of the belt. There's also no loss of production for shutdowns. **Circle T-31 on Reader-Service Card**

Improved Bobbin Holder

An improved Spin-Master bobbin holder that consists of four parts instead of seven has been announced by Eclipse Machine Div., Bendix Aviation Corp., Elmira, N. Y.

A tough, durable plastic material called Kralastic replaces the steel tubing formerly used. This material contains all of the functional qualities of the steel tubing but is lighter and less expensive. Bearings and bearing races are the same.

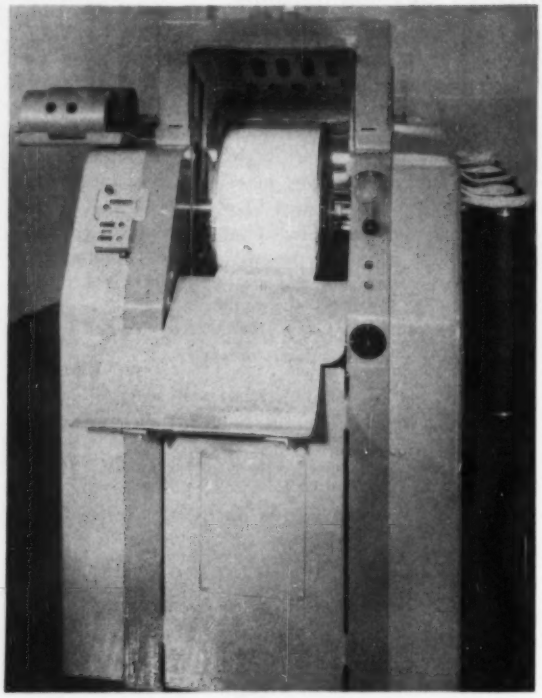
Other design changes add efficiency and lower the number of separate parts used in the bobbin holder. A die-cast dust cap is used, and no washers or lock washers are required. The tension weight, fastened to the dust cap, has a positive-locking device that assures uniform tension. **Circle T-32 on Reader-Service Card**

Cotton-Handling Truck

A 3,000-lb.-capacity cushion-tire lift truck specifically designed for handling cotton has been announced by Hyster Co., 2902 N. E. Clackamas St., Portland 8, Ore. The unit is equipped with a "noclog" cooling system, a special fuel system, and engine-breathing equipment.

The radiator is protected from clogging with lint by a removable precleaner screen. Straight-line fins permit lint to pass through the radiator or to be blown out easily. Lint pickup from the floor is prevented by a belly pan running the length of the truck. An easily cleaned or changed air cleaner is located high under the hood to filter out dirt and lint. **Circle T-33 on Reader-Service Card**

Sliver Lapper



An improved sliver lapper that produces heavier laps at higher speeds has been announced by John Jacob Rieter & Co. Ltd., Winterthur, Switzerland. U. S. representative is American Rieter Co., Inc., Box 777, West Caldwell, N. J.

The machine drafts from 1.1 to 2 and has two double nipping points to improve fiber control. Six bottom and four top rolls are used in the system, which has pneumatic weighting.

Other features include an automatic stop motion with electric signals, antifriction bearings, and oil-vapor lubrication. **Circle T-34 on Reader-Service Card**

Lint-Free Motor

A totally enclosed, fan-cooled, lint-free motor with a smooth self-cleaning frame has been announced by Electra Motors, Inc., 1110 Lemon St., Anaheim, Calif. An open fan shield permits free movement of lint and prevents lint from hanging on the air openings.

The totally enclosed externally ventilated construction keeps lint out of motor windings. The fan directs the flow of air over the smooth housing to give cooling and self-cleaning action and eliminates the need for separate cleaning with compressed air.

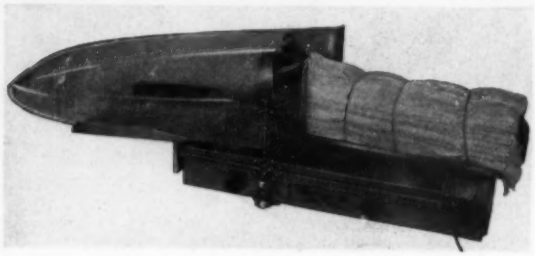
A housing of heat-treated alloy gives fast heat transfer for cool running. The housing is also light in weight and corrosion resistant. **Circle T-35 on Reader-Service Card**

Card Clothing

Card clothing with extra-hard points that require less grinding and produce cleaner webs has been introduced by Oliver D. Landis, Inc., 1805 W. Franklin Ave., Gastonia, N. C.

Manufactured by AB Kardbeslag, Norrköping, Sweden, the clothing features high teeth that clean the bottom of the flats without touching the foundation and low teeth that keep the flats clean on top. All teeth are made of spring steel set in a flexible foundation. **Circle T-36 on Reader-Service Card**

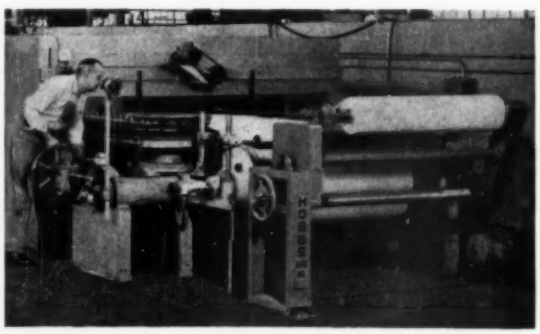
Large-Package Bagger



Bales of goods weighing up to 50 lbs. and 36 ins. in length can be bagged on a machine developed by Tele-Sonic Packaging Corp., 208 W. 27th St., New York, N. Y.

The bagger uses open-end ready-made bags and will handle up to 180 packages per hour. **Circle T-37 on Reader-Service Card**

Constant-Tension Batcher



A driven-center winder that features a constant-torque motor drive is offered by Hobbs Mfg. Co., Worcester, Mass. The Hobbs-Alquist winder, as it is called, can be set to maintain any desired tension in a batching or winding operation and will maintain that tension regardless of the size of the roll. **Circle T-38 on Reader-Service Card**

Battery-Powered Sweeper

A battery-powered walk-behind sweeper, Model 40-E, has been developed by G. H. Tennant Co., 721 N. Lilac Dr., Minneapolis 22, Minn. The sweeper is 33 ins. wide and is self-propelled.

The machine has a cylindrical 26-in. main brush and a 17-in. rotary side brush to sweep an over-all path of 34 ins. At top speed of 1.9 mph., it sweeps 25,000 sq. ft. per hr.

Two 12-v., 90-amp.-hr. batteries power the 1-hp. motor. On a single battery charge, the machine sweeps over 38,000 sq. ft. of floor space and operates 1½ hrs. Batteries can be exchanged in 5 mins. **Circle T-39 on Reader-Service Card**

Oils for Knitting Yarns

Three nonionic coning oils for textured yarn and nylon filament yarn for hosiery knitting are being produced by Sonneborn Sons, Inc., 300 Fourth Ave., New York, N. Y. They are extremely light colored and therefore are exceptionally resistant to oxidation and discoloration.

Textiline 3233 is for bulk yarns. It makes the yarns flexible to permit the formation of soft and even cones of uniform density.

Textiline 3000 is for nylon yarn where low yarn-to-metal friction and low tension in coning and knitting are essential.

Textiline 3199 is for sized and unsized nylon yarn for hosiery knitting. It contributes to uniform stitch formation and will not affect the size adversely. **Circle T-41 on Reader-Service Card**

Magnetic Whorl Tension

An electromagnetic whorl tension based on a rotating cap with braking action applied by the hysteresis principle has been announced by Allied Control Co., Inc., 2 East End Ave., New York 21, N. Y.

The speed of the tension is limited only by the operating capacity of associated machinery. Proper tension is maintained independently of speed. Yarn quality is improved because of reduction in nonrotating contact points and minimum tension variation, which reduces filament breakage, loops, and strip-backs on twisted yarn.

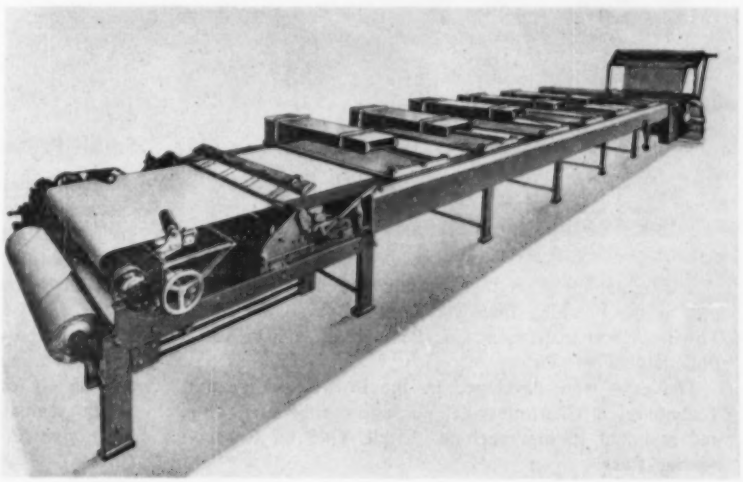
Beam density is changed with a simple hand control and without machine stoppage. No weights or contact points need adjustment to vary the tension on the yarn. Under normal operating conditions, cleaning and oiling are required only every two to four years. **Circle T-42 on Reader-Service Card**

Screen-Printing Machine

Both color and flock can be applied to fabrics on a series of machines offered by Reisinger Apparatebau, 54 Lerchenfelderstrasse, Vienna 8, Austria.

A plastic-coated wire cloth is used for the printing belt in the machines, and a dry adhesive is used to hold the cloth in position for printing. The belt does not require washing because the adhesive is melted off the belt and reapplied during processing.

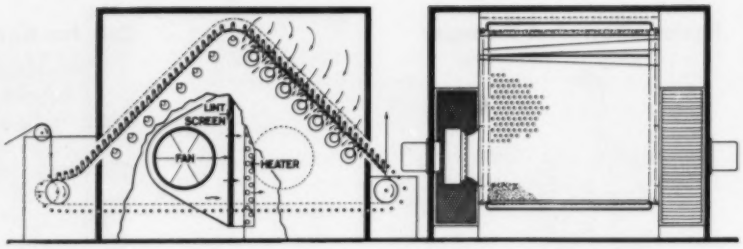
The machines are available in models that will print one to eight colors, or one flock and six colors, in 40-, 55-, and 64-in. widths. **Circle T-40 on Reader-Service Card**



Knitted-Fabric Dryer

A high-capacity tension-free dryer is being made by Proctor & Schwartz, Seventh St. & Tabor Rd., Philadelphia 20, Pa. The fabric is carried on a conveyor that has supporting girts, and it is further supported by a wire mesh underconveyor.

Hot air is directed at both face and back of the goods to provide even drying. Rated production capacity is 400 lbs. per hr. in a space 12 ft. 2 ins. wide by 17 ft. 2 ins. long. A variable-speed drive is supplied as standard equipment. **Circle T-43 on Reader-Service Card**



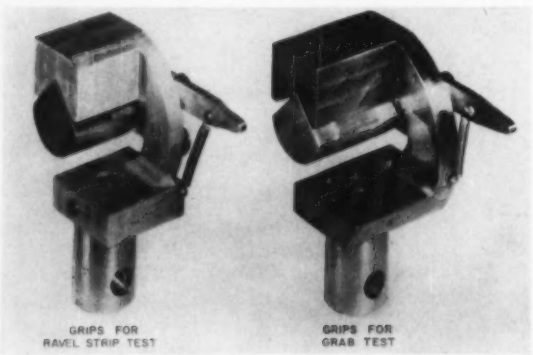
Yarn Static Eliminator

An improved static eliminator with a square shape permits a warper yarn sheet to come much closer to the electrode head without risk of damage to the yarn. The instrument is manufactured by Lance Engineering Co. Ltd., England, and is distributed in the U. S. by Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y.

This improved construction minimizes the collection of dirt within the shield, which causes tracking. It also minimizes the collection of solvents on electrode heads that might cause toxic gases when the current is on.

Current never exceeds two milliamperes, which provides ample ionization and also provides complete safety to the operator. **Circle T-44 on Reader-Service Card**

Nonslip Testing Grips



Self-tightening grips that tighten their hold on samples as the breaking force increases are available from Thwing-Albert Instrument Co., Penn St. & Pulaski Ave., Philadelphia 44, Pa.

The grips were developed by the Institute of Textile Technology at Charlottesville, Va., and can be used with any make of testing machine. **Circle T-45 on Reader-Service Card**

Granular Card Top

Commercial production of the Gran-O-Top SRRL granular card top [May '59, p. 148] has been announced by licensees, Benjamin Booth Co., Allegheny Ave. & Janey St., Philadelphia 34, Pa., and Carolina Machinery Co., Box 1922, Charlotte, N. C. Sales and service of the card top and other products will be handled by a joint organization, Carolina-Booth, Charlotte, N. C. **Circle T-46 on Reader-Service Card**

Multipurpose Glossmeter

A photoelectric glossmeter for textile yarns, fibers, fabrics, and other materials has been announced by Hunter Associates Laboratory, Inc., 5421 Brier Ridge Rd., McLean, Va.

Gloss tests are made by building elements of the incident and reflected light beams onto aluminum blocks that are mountable at 75°, 60°, 45°, or 20°. Because of the ease with which beam and field angles can be changed, the instrument is especially suited for testing new products. For textiles, the instrument measures contrast gloss (luster). **Circle T-47 on Reader-Service Card**

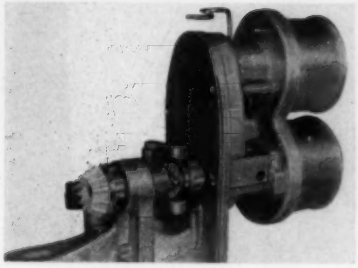
Small Pressure Regulators

Small pressure regulators for air, water, noncorrosive gases, and many liquids are available from C. A. Norgren Co., 3400 S. Elati St., Englewood, Colo. The regulators are only 3½ ins. high, and hex size is 1⅜ ins. They fit ⅛- and ¼-in. pipes.

The regulators, Series 20AR, handle air flow up to 20 cu. ft. per min. at 100 psi. to provide reliable pressure regulation even with widely fluctuating line pressure and rapidly varying air flow.

The regulators are used in a wide variety of combinations with Norgren air filters and air-line lubricators. **Circle T-48 on Reader-Service Card**

Feed-Roll Drive



A positive clutch drive for feed-roll mechanisms used for running heavy-denier yarns has been developed by Fletcher Works, Inc., Second and Glenwood Aves., Philadelphia 40, Pa.

The unit has driving gears in permanent mesh, a split shaft, and a free-engaging clutch. This arrangement makes it possible to run extra-heavy yarns with low twist at high spindle speeds. **Circle T-49 on Reader-Service Card**

Tensiometers

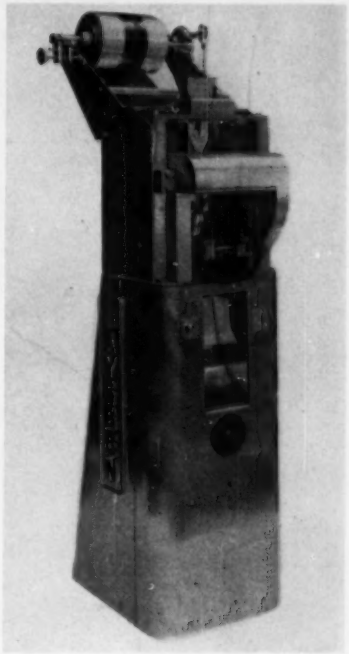
A series of tension-measuring instruments that feature front-filament loading are available from Electromatic Equipment Co., 175 Fifth Ave., New York 10, N. Y. Manufacturer is Trentini & Schmidt, West Germany.

The tensiometers have a thumb-operated ball-bearing-roll release to permit easy insertion and removal of yarn without stopping the manufacturing process. A guide bar assures proper alignment of material prior to roll engagement.

The instruments can be used to monitor operating tensions of single threads, multiple warp threads, bands, and tapes.

Tensions varying from 0.3 grams to 100 kg. can be measured within 1% accuracy. **Circle T-50 on Reader-Service Card**

Compact Packaging Machine



Rotary rather than reciprocating sealing elements are featured in a packaging machine announced by Hayssen Mfg. Co., Sheboygan, Wis.

The machine will seal all heat-sealable supported materials and will form pouch or pillow packages or seal on all four sides. Electric-eye registration is available for printed stock. Capacity is 30 to 150 bags per minute. The Compak Series J unit will handle bags from 1x2½ to 8 ins. by any length. **Circle T-53 on Reader-Service Card**

Portable Rug Shear

A rug shear that can easily be transported to the point of use has been marketed by Curtis & Marble Machine Co., 72 Cambridge St., Worcester 3, Mass.

The Type LM unit weighs only 90 lbs. and has a 10-in. revolver and an adjustable power-driven brush roll. The height of the cut can be regulated by an adjusting knob that extends through the hood. All cut fiber is deposited in the bag by suction. **Circle T-51 on Reader-Service Card**

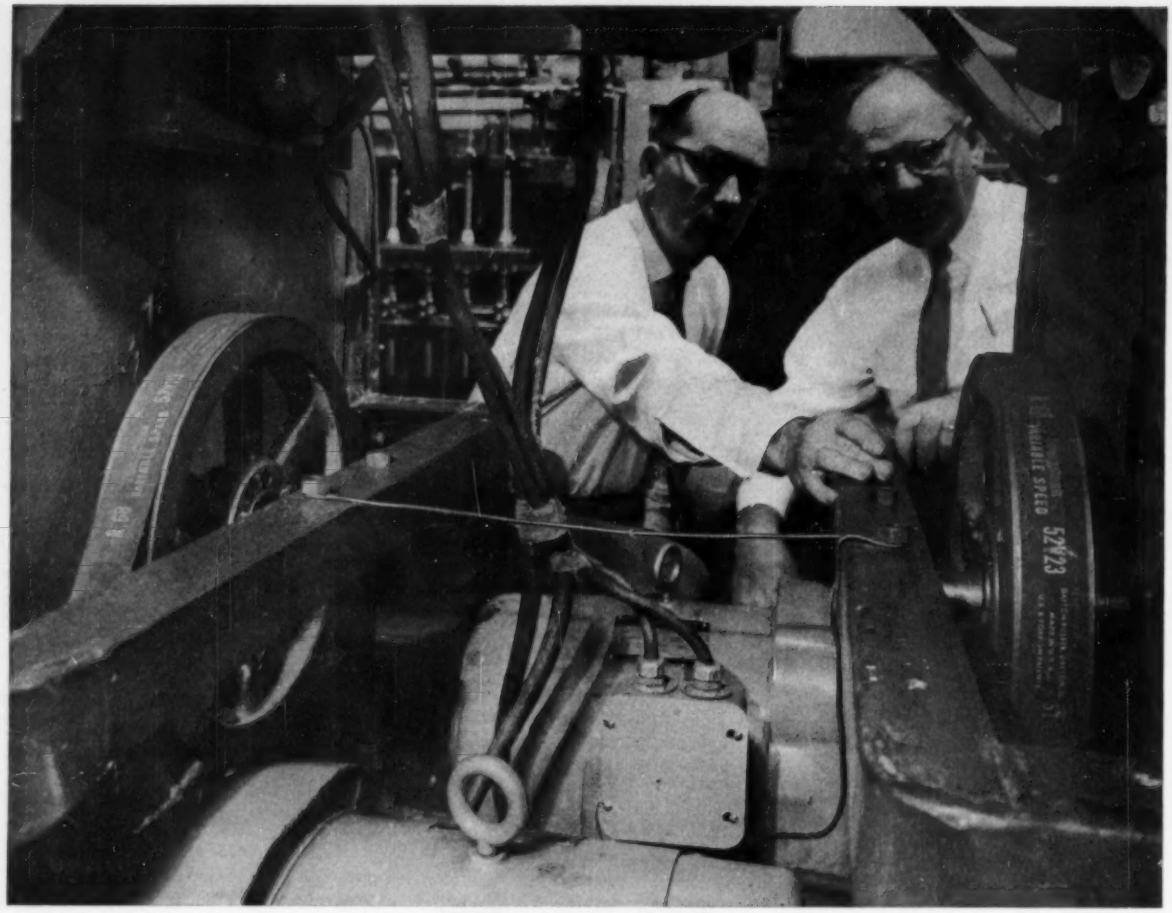
Slasher-Size Control

An indicator and indicating controller to provide viscosity control at lower cost for applications where permanent records are not required is being sold by Norcross Corp., Dept. No. N42, 247 Newtonville Ave., Newton 58, Mass.

These models are used with the company's basic-measuring elements that operate on the principle of measuring the time required for a piston to fall a given distance through the slasher size or other solution to be measured.

The indicator and indicating controller can be located at any reasonable distance from the measuring element and can be furnished with high- and low-viscosity alarms. **Circle T-52 on Reader-Service Card**

CONTINUED ON PAGE 156



D. J. Moncus, Muscogee's plant engineer (left), compares notes with his Dayton Distributor, C. L. Massey of Columbus Bearing Service.

Spinning Frame Speed Changed in ⅓ the Time with Dayton V-Belts

at Muscogee Manufacturing Co., Columbus, Georgia

"Dayton Variable Speed Cog-Belt drives save 25-30 minutes every time we change the speed of a Spinning Frame," states Mr. B. D. Cain Jr., General Superintendent of Muscogee Manufacturing Co., Columbus, Georgia.

"Speed changes used to take 35-45 minutes with our old belt drives, and we were never at optimum speed, due to natural variations in motor speed. Now, many of the 150 Dayton Variable Speed Drives are changed in 10-15 minutes . . . or about 1/3 the time it used to take.

"After the speed's adjusted, we lock the Dayton sheaves in line . . . they stay in alignment. We've had trouble in the past with misalignment, causing variations in power and speed transmitted. But that's been ended by Dayton Variable Speed V-Belts and Sheaves.

"Naturally, production increased the minute we eliminated unnecessary downtime with Dayton Variable Speed Drives. And, to top that, we're able to adjust speed to the last turn for the absolute maximum in production from every Spinning Frame!"

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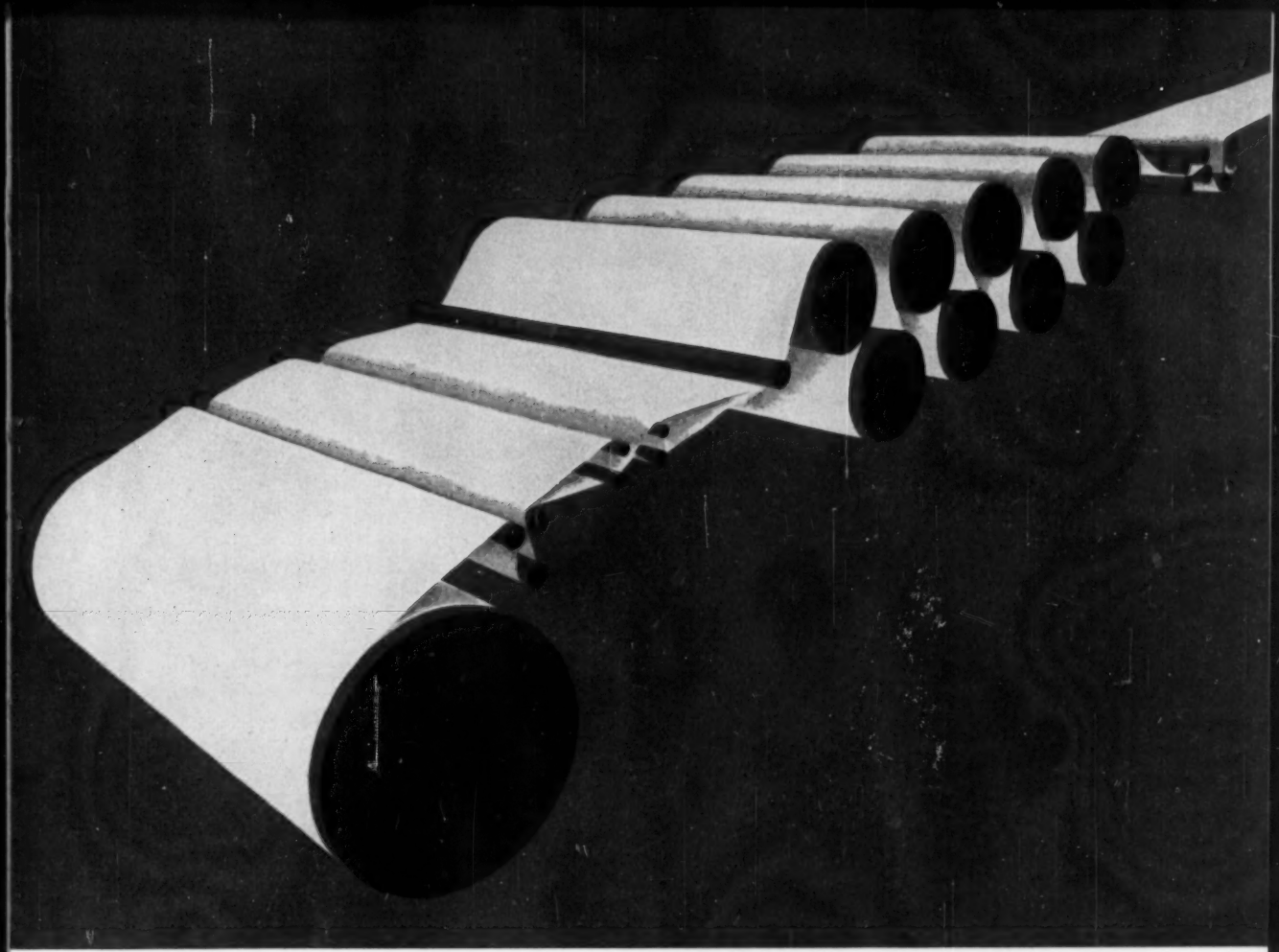
Dayton Rubber

World's Largest Manufacturer of V-Belts

Consult the Yellow Pages of your telephone directory for the name of your nearest Dayton Distributor, or write The Dayton Rubber Company, Industrial Division, Dayton 1, Ohio.



The yarn path for BETTER loom beams runs through the Kidde-Johnson Slasher

Of course, you want tightly and evenly-packed loom beams. You want size evenly applied, with careful control of pick-up, and fast drying at regulated temperatures. You want controlled moisture content in the yarn after drying. You want equipment that's easy to maintain. The Kidde-Johnson Slasher meets your requirements perfectly. Here's why:

1. **Controlled tension**
2. **Rigidly supported loom beam**
3. **Fingertip calibration of stretch**
4. **Precise control of size level and temperature**
5. **Uniform application and penetration of size**
6. **Geared cylinder drive**
7. **High pressure, Teflon-coated cylinders**
8. **Stainless steel components**

Kidde makes the Slasher to suit your production requirements

The Kidde-Johnson Slasher will slash yarns of any fiber — filaments or spuns — from the finest count for delicate fabrics to the heaviest denier tire cord.

It is constructed to fit your requirements — for cotton system slashing, silk system slashing, or both.

Its production capacity can be expanded to meet future needs. Drying cylinders, single or combination quetsches can be added, head ends extended or widened.

For full information about complete new slasher installations as modernization of your present equipment, call PILGRIM 8-8100 or write . . .

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde

TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

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DU PONT
NYLON *"ORLON" ACRYLIC FIBER *"DACRON" POLYESTER-FIBER ... MILES
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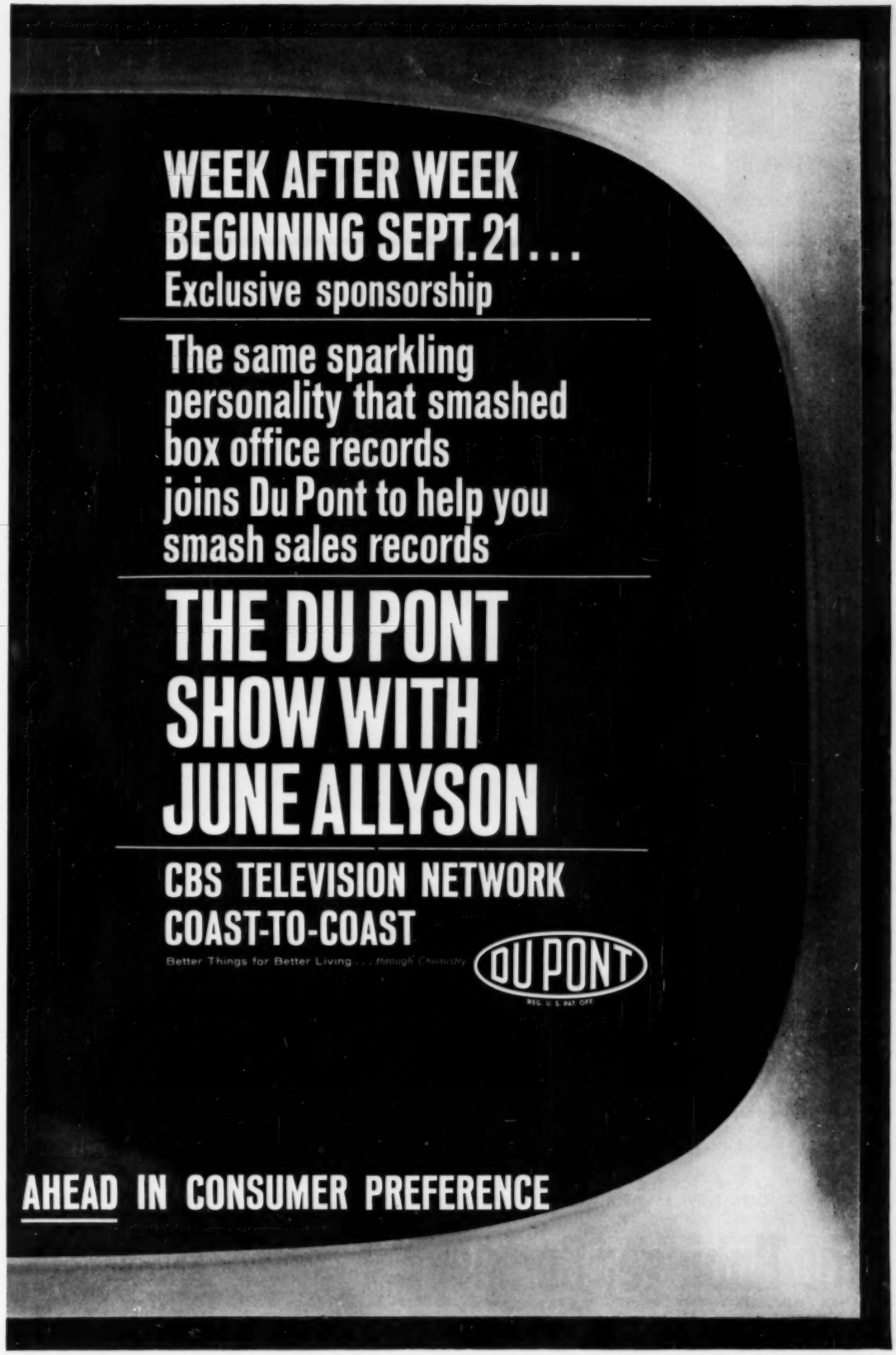
WEEK AFTER WEEK
BEGINNING SEPT. 21...
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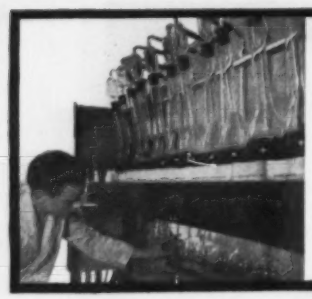


What You Should Know About STARCH *

NEW IMPROVEMENTS IN SLASHING

The basic function of the slasher room is to apply a film or coating of the proper sizing material to the warp yarn. The purpose of this size film or coating is to make the yarn as smooth as possible by binding fibers to the core of the yarn and also to provide a continuous smooth coating on the outside of the yarn. This "coating" increases tensile strength of the yarn and resists frictional abrasion and stress to which warps are subjected in the loom. The end results required from the slasher room are to assist in securing good weavability and greater loom efficiency.

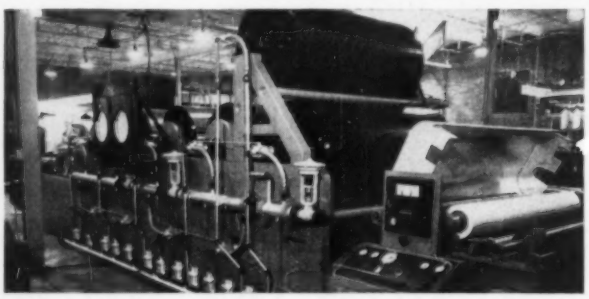
No matter how good the quality of the size itself, or the yarn, if it is not applied properly the end results will not be desirable.

In recent years new improvements have been developed which enable the textile mills to have complete control over the slashing operation. It is these new improvements, coupled with higher quality sizing ingredients, which have permitted large increases in slasher room and weave room production at a subsequent lowering in unit operating costs.

The development of Teflon with its ability to eliminate sticking of size yarn to the guide rolls and the drying cans on multi-cylinder slashers has permitted tremendous increases in slasher production.

Although hot air slashers have been in use for several years, principally in the wool and worsted mills, certain advantages have expanded their use into cotton and synthetic mills. In the hot air slasher, the sized yarn is dried from all sides by a forced current of heated air. When the hot air slasher is stopped for doffing a warp or other reason, the heat is turned off so there is no danger from overdrying or overheating the yarn.

Rubber covered squeeze rolls with pneumatic loading and lifting are enabling slasher operators to produce more evenly and better sized warps than heretofore possible when using wool blankets or yarn wound rolls. For instance, if blankets or yarn rolls are used, the size pickup will vary depending upon the condition and age of the rolls. Therefore, it is always necessary to "break-in" or "cure" these rolls before using on the final squeeze roll. Even then the condition of the roll with use continues to vary affecting size pick-up. Whereas, with rubber covered rolls, the conditions from day to day remain constant. Also the operating cost of rubber rolls normally runs less than that of blanket or yarn rolls.



One of the major improvements and by far the most valuable in slasher operations is the development of the Griffin Size Applicator. This Applicator has several patented features. All are designed to provide maximum protection to the yarn sheet and size at all times, as well as applying size in a uniform, continuous film or coating at various operating speeds. The Applicator is equipped with a cover over the rolls and size vat which reduces hard size. This cover also aids in reducing roll marks or bars by maintaining a warm, moist atmosphere around the squeeze roll. Pneumatic squeeze roll pressures are automatically varied with slasher speeds (patented). Consequently, size pick-up is approximately the same at creep speed as at fast operating speeds. In conventional boxes the size pick-up is much less at creep speed than at high speed.

Recently, a new feature has been incorporated in the Griffin Applicator. This is the use of a positively driven rubber covered immersion roll which also acts as a dressing roll. The diameter of this roll is such that the dry yarn from the creel contacts the roll before entering the size. Therefore, maximum pull or stress on the yarn is while it is dry. Yarn strength is weakest when wet. Consequently, stretch is closely controlled and laps are virtually eliminated. The yarn sheet is held firmly in position throughout this Applicator, eliminating rolling, taping or crossing of ends at high speeds. There cannot be any shifting of selvage or outside ends. The size capacity is 20 gallons which is considered to be very desirable. Fresh size is continuously being pumped into the pan assuring a more uniform viscosity. When size has to be pumped between sets this brings about a substantial savings.

The HUBINGER COMPANY manufactures a full line of quality corn starches for the Textile Industry. Our Research and Development Laboratories and Textile Sales Staff keep fully informed and accumulate operating data on new developments in slasher room. We are confident that we can be of assistance in connection with solving your sizing problems. May we be of service?

* ONE OF A SERIES OF ARTICLES, FOR THE COMPLETE SET AND FOR OUR CONTINUING TECHNICAL DATA SERVICE, WRITE WITHOUT OBLIGATION TO:

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HUBINGER 78 YEARS

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Sales Representatives: IRA L. GRIFFIN AND SONS • Charlotte, N.C.

New Polyester Fiber

North American Rayon Corp., Fiber Div. of Beaunit Mills, is marketing its new polyester fiber under the trade name Vycron.

The fiber is being produced at the company's new plant in Elizabethton, Tenn., in four types: filament yarn, staple, tow, and spun yarn.

According to Beaunit, several mills are weaving fabrics using blends of Vycron with cotton, worsted, and other man-made fibers.

Stain-Repellent Fabrics

Burlington Men's Wear Fabrics Co. and Mooresville Mills, divisions of Burlington Industries, are now offering wash-and-wear fabrics treated with Scotchgard stain repeller.

Burlington Men's Wear is offering this treatment in its Blendomatic line, a 70-30 Dacron-worsted blend. Blendomatics come in two ranges: a 7½- to 8-oz. tropical and a mid-weight of 10 to 10½ oz.

Mooresville Mills is offering wash-and-wear combed cottons treated with Scotchgard.

New Name for Carpet Yarns

Springset is the new name for U. S. Rubber Co.'s twist-set carpet yarns of nylon and nylon-acetate blends.

US 100^{N} is the company's 100%-nylon yarn. US 200^{AN} is the company's blend of Celaire acetate and nylon.

Draperies of Fiberglas

Riverdale Drapery Fabrics is offering fabrics of Fiberglas Coro-dyed yarns for fall.

The firm's Coro-dyed collection, Buena Vista, consists of five different types of weaves, including plaids and linens.

Each is available in a variety of subtle-hue combinations. The retail price will range from $4 to $6 a yd.

Fashion Color Trends

The Finishing Div. of American & Efird Mills, Inc., has released a file folder of swatches showing important color ideas in circular-knitted fabrics of man-made fibers.

"Fashion Color Trends" shows 48 solid and heather shades created for four man-made-fiber and blended fabrics.

An Arnel-and-Orlon jersey introduced by Dana Textile Mills this spring is included in the group. An Orlon-and-viscose jersey treated with Reactex is also shown. Other fabrics represented in the color folder are Acrilan jersey and Orlon-and-wool jersey.

The file folders are available on request from the company.

Aberfoyle To Use Kodel

Aberfoyle Mfg. Co. will start experimental work using Kodel in various knitting yarns.

Initial work will be in 50-50 blends with cotton, including the company's Veldo yarn. But the company expects to be using 100% yarns as well as other blends within the near future.

Aberfoyle expects to have pilot production under way soon of yarns for the half-hose, outerwear, and underwear fields.

Lowenstein's Fall Fabrics

Lowenstein's Belaire Div. is offering classic-design prints in its over-the-counter collection of transitional fall fabrics. Foulards, American provincials, batiks, paisleys, and florals are shown in deep smokey shades of brown, bronze, blue, burnished greens, and vintage red.

The company is also offering a new group of wool-blended and 100%-wool fabrics.

Bally-Hoo is a printed rayon-and-wool blend with the look and hand of an all-wool challis. Jubilee is a printed 100%-wool challis.

The Belfast finish is being offered for the first time by the company on two fabrics, a combed broadcloth and an oxford weave.

Agilon Tricot Fabric

Milliken Woolens, Inc., is now using textured nylon filament in tricot fabric. The new fabric is knitted of medium-denier Agilon yarn.

Rogers Lingerie has introduced a special line of lingerie of this fabric for fall selling.

Colored No-Iron Sheets

Indian Head Mills, Inc., is producing no-iron sheets and pillowcases in solid colors under the Pequot Easy-Care label.

They will be available in combed percale in yellow, blue, green, and pink. All colors are vat dyed. They will carry the same features as the no-iron whites.

Coated Nylon Fabrics

U. S. Rubber Co., Footwear & General Products Div., has developed new coating formulations and procedures to provide better weather-resistant and flame-resistant qualities for coated nylon fabrics for marine and heavy-duty tarpaulin applications.

These qualities have been incorporated in two additions to the company's Fiberthin line. The additions are marine grade No. 9, and commercial grade No. 10.

The marine grade is produced in 11- and 18-oz. weights. The heavier coating is on the embossed side of the material. This marine-grade Fiberthin fabric is slip-finished with a high-gloss surface. The finish eliminates dirt pick-up and discoloration and makes material easier for fabricators to handle.

The commercial grade has similar characteristics and is manufactured in the same weights. In addition, it

will be made flameproof to meet military specifications and requirements of New York City's Board of Standards.

New Pile-Fabric Finish

E. F. Timme & Son has developed a new pile-fabric finish called Glo-Tone. This finish is applied to 100%-nylon pile as a tipping of contrasting color to give an iridescent effect.

Glo-Tone simulates real fur, is noncrushable, and has a soft hand. Colors are fast and come in tones of red, black, gold, and beaver brown.

The new finish is being marketed for application in men's, women's, and children's wear.

Nonwoven Shaping Fabric

Chicopee Mills is promoting Keybak, an open-mesh nonwoven fabric simulating woven fabric for shaping in women's bathing suits.

Keybak is produced in several fiber combinations and several weights. It ranges from 1¼ to 4 oz. and is 40 ins. wide.

New Color Card

Warp Knit Fabric Manufacturers Group, American Cotton Manufacturers Institute, has introduced its first color card that includes pastel shades.

The card includes two whites (Snowhite and Star White) plus Twilight Pink, Dawn Blue, Mentha (mint) and Sun Flower (maize). The dye formulas for all colors are available to all dyers at the group office.

Orlon-Cotton Layettes

A layette collection of knitted garments of 80% Orlon and 20% cotton is being manufactured by The William Carter Co. for fall selling.

The fabrics are soft, nonallergenic, and have dimensional stability.

New Fiber Pilot Plant

AviSun Corp. will build a pilot plant for the manufacture of polypropylene continuous-filament and staple fibers near New Castle, Del.

AviSun is an equally owned affiliate of American Viscose Corp. and Sun Oil Co.

Herculite 20

Herculite Protective Fabrics is producing a vinyl-coated nylon fabric that will not shrink, stretch, or break down because of constant exposure to the weather and salt air.

Called Herculite 20, the 10-oz. material is unaffected by mildew, rot, rain, salt-water spray, oils, and chemicals. Its tear strength is three times greater than No. 8 cotton duck.

New Carpet Colors, Qualities

James Lees & Sons Co. has introduced three new qualities and color additions to its existing carpet lines for the summer home-furnishings markets. The new qualities are all in the company's tufted lines.

One is Glamour Tuft, a 12-ft. wide, heavy cotton textured plush. It is available in 16 colors and is priced for retail at about $6 a sq. yd.

Another is Candleglow, a heavy, textured-wool, loop fabric with random-type texture. Available in widths of 12 and 15 ft., it retails for about $14 a sq. yd.

The third is a two-tone nylon twist, Durelle, retailing for about $10.95 a sq. yd.

Color additions to the company's carpet lines, mostly in the neutral family, include Martini, bone white, golden white, honey beige, and silver beige.

Wunda Weve's New Carpets

A new type of cotton carpeting, seven new colors, and an additional size in scatter rugs have been introduced by Wunda Weve.

The new broadloom carpet is called Wunda Vogue and comes in tweedy color combinations. It retails at $7.95 a sq. yd.

The new color additions, on the whole, consist of monochromatic neutrals. They have been added to the Plush Tweed and the Twist Tweed lines. A custom color has been added to the Wunda Fluff line called Marine Blue.

A new scatter size, 18x24 ins., will be available in Wunda Fluff. It comes in both rectangular and oval shapes.

Molded Dynel Sonic Cloth

A 100%-Dynel woven fabric that will be used as a decorative acoustical cloth has been developed by F. Schumacher & Co. The fabric has been made especially for the Audax Div. of Rek-O-Kut Co. and will be used in the new Audax high-fidelity speaker systems.

The fabric is permanently molded by a heat-setting process. The mold gives the material a sheen and stiffens the fabric to resist wear from handling.

Metlon on Warp Beams

The Metlon Corp. has completed arrangement with the Acme Warping Co. to supply customers with Metlon-with-Mylar on warp beams, especially paper beams.

Albert Zarky, in charge of operations at Acme, will handle all inquiries.

Candalon Upholstery Fabrics

Nine new furniture fabrics in filament nylon yarns have been introduced in the Candalon upholstery collection.

The collection features new weaves and textures in pile fabrics of textured nylon and combinations of spun filament nylon. Pile fabrics of Tycora and Estron are also shown, plus a new flat 100%-nylon strié fabric.

Desalting Units Use Dynel

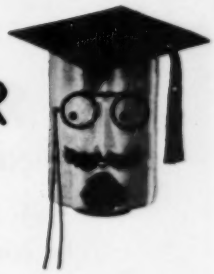
Dynel fabric is being used in electric-membrane demineralizing plants to remove dissolved salts and minerals from brackish water and from salt water.

The fabric, woven by U. S. Rubber Co., weighs 9 oz. per sq. yd. and has an exceptionally porous plain weave. It has good mechanical strength, flex life, resistance to chemical attack, and ability to withstand continuous exposure to salt water.

#10 of a series

caprolan® TEXTURED YARN SEMINAR

THE NYLON FIBER BY ALLIED CHEMICAL



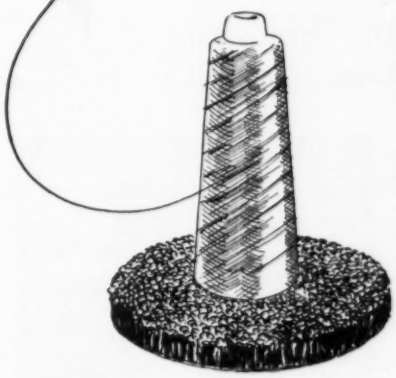
CREELING PROBLEMS CAN BE AVOIDED

It's easy to change to textured filament yarns. Just remember this fact:

TEXTURED FILAMENT YARNS AND SPUN YARNS ARE NOT THE SAME

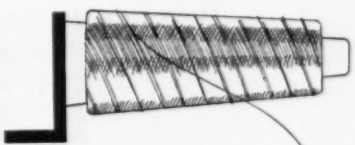
For maximum success with the new yarns, you will need to make a few simple adjustments. For example: Vertical creeling of textured filament yarns can lead to a considerable amount of sloughing off if proper precautions are not taken.

Because the fiber ends are essentially smooth, they will slide down the body of the package when the yarn is relaxed. As the machine starts up again and the slack is eliminated, the cone may be lifted off the arbor. Here are two easy ways to avoid this problem:



- **Place a piece of carpet under the yarn package with the bottom of the cone passing through the carpet and the coned yarn resting on the pile of the carpet. Thus, the relaxed yarn will rest on the carpet and will not unseat the cone.**

or



- **Re-install the arbors so that the cones will be horizontal rather than vertical. The relaxed yarn will then run freely from the package without sloughing. Post-tensioning devices will help control uniform yarn delivery**

We will be happy to help you in adapting Textured Caprolan* to your product lines for best possible results. Our technical service, end-use development and fiber application laboratory staffs are always available. Call us any time.

**Trade Mark—Allied Chemical's polyamide fiber*

Allied Chemical

Fiber Sales & Service *National Aniline Division*
261 Madison Avenue, New York 16, N. Y.

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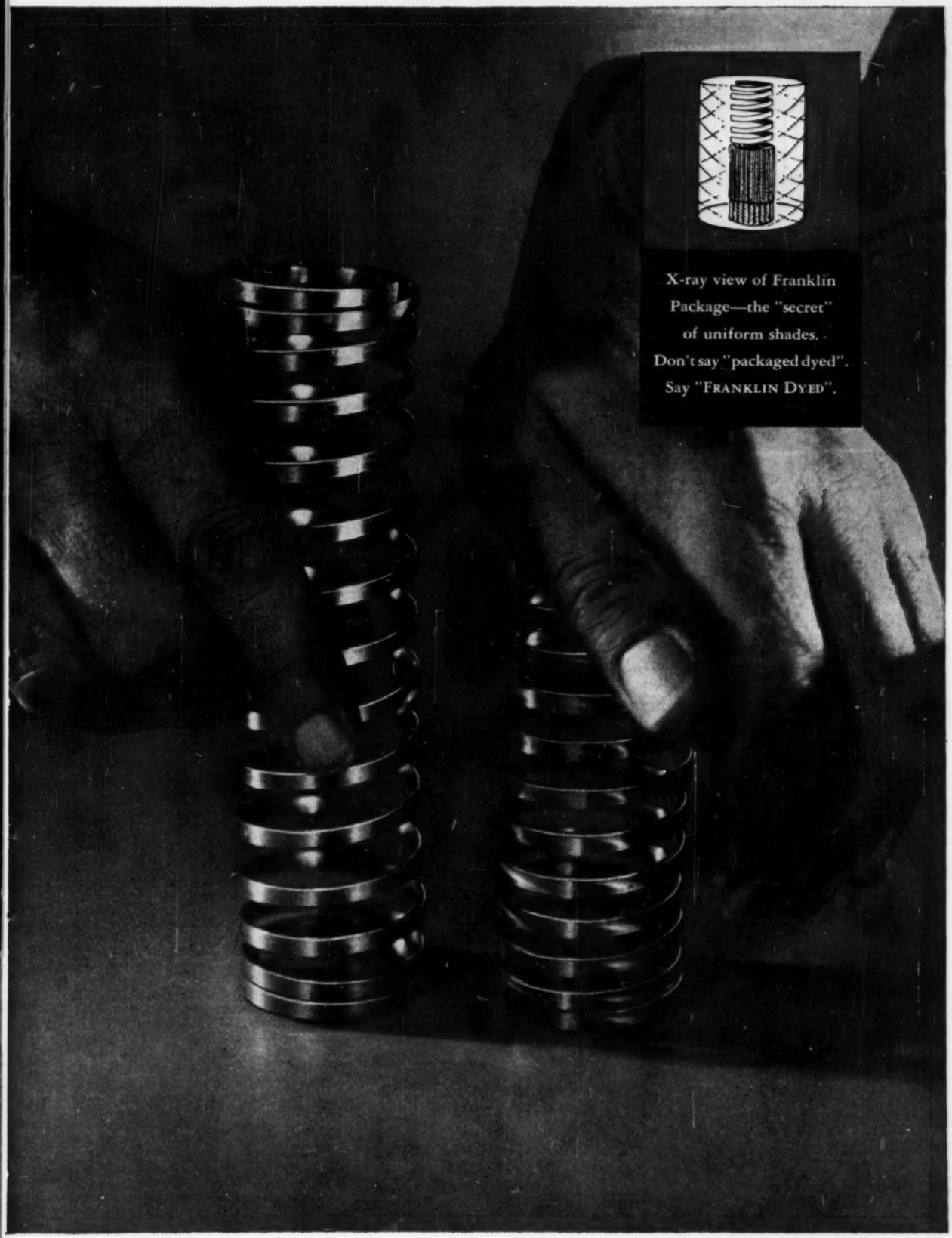

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NEW LITERATURE

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

Chrome-plated thread guide—Brochure containing specifications and detailed description of hundreds of standard chrome-plated wire thread guides is available from Mitchell-Bissell Co. **(F-1)**

Spinning change-overs—Latest issue of "Dixon Data" contains information on double-apron Roth and Casablancas change-overs and explains how the systems are completely oil free and cap-bar free. Construction features of front, middle, and back rolls are illustrated. Dixon Corp. **(F-2)**

Overedging machines—Leaflet illustrates and describes eight kinds of overedging machines and their specific applications in the manufacture of garments. The machines are used in binding, cording, gathering, welting, serging, and other operations on regular and tubular work. Singer Sewing Machine Co. **(F-3)**

Long-fiber spinning frame—Technical bulletin describes the drafting system, top-roll suspension, roll weighting, balloon control, bobbin build, and other features of the Arrow long-fiber spinning frame. Roberts Co. **(F-4)**

Tricot warper—Bulletin describes outstanding features of the TB 53 high-speed warper. Among the features are air doffing of the beam, air-controlled presser roll, electric brakes, differential yarn-speed control, and lower carrier roll. Cocker Machine & Foundry Co. **(F-5)**

Weaving equipment—Illustrated bulletin describes features of looms, loom assemblies, loom parts and other equipment. Also tells about foundry facilities and services. Southeastern Loom & Machine Works. **(F-6)**

Push-button loom—The automated features of the C-7 loom are described in illustrated bulletin that tells how control switches start, stop, reverse, jog, and operate the picks and brake release. Crompton & Knowles Corp. **(F-7)**

Fiber blending—Mill results are described in booklet showing application of fiber-meter blending that is accurate within ± 1%. James Hunter, Inc. **(F-8)**

Motor protector—That prevents three-phase motors from overheating is described in bulletin that discusses specifications and cost savings. Metals & Controls Corp. **(F-9)**

Seam-free knitting—Booklet describes electronically controlled circular knitting machine with dual feed that knits nylon stockings without seams. Staroba Mfg. Co. Ltd. **(F-10)**

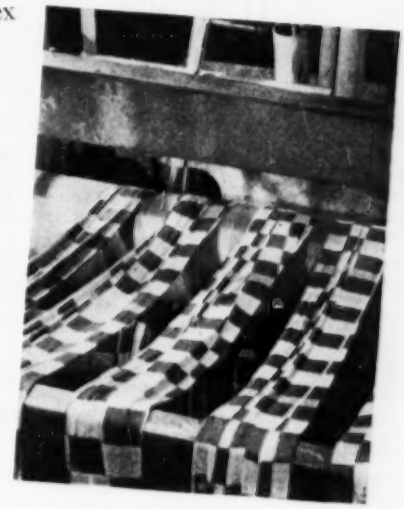
News about LUREX®

Caustic-resistant Lurex

This new caustic-resistant metallic yarn is a modification of Lurex MF (polyester-foil type).

Designed to increase your profit opportunities, it:—

- Provides a greater margin of safety against caustic degradation during cotton bleachery operations.
- Is economically advantageous (Lurex MFCR costs no more than regular Lurex MF). Extends the use of Lurex to perform in a standard cotton bleachery cycle.
- Stands up under a full-white, continuous peroxide bleach; mercerizing; continuous vat and sulphur dyeing as well as jig dyeing.



See your nearest Lurex salesman about ordering this new caustic-resistant Lurex.

Lurex, non-tarnishing metallic yarn made only by the Textile Fibers Department of

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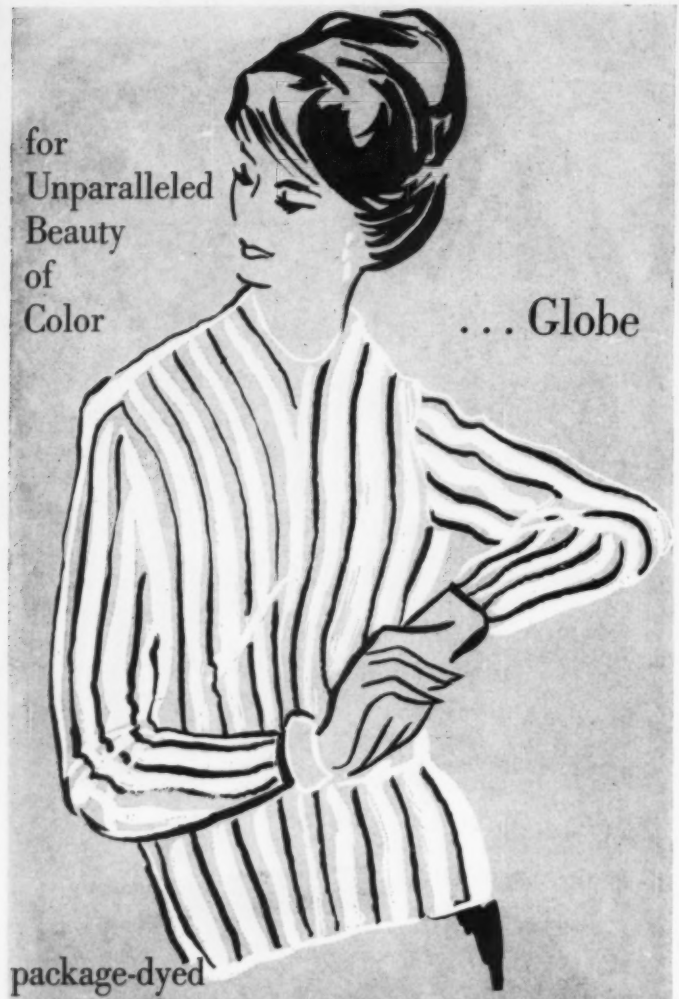
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Your creations deserve the color brilliance and permanence that Globe package-dyed yarns can provide. Let Globe provide that "seasons ahead" look.
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High-speed looms—Specifications and applications are given for the X-2, XD, and XP-2 looms in a bulletin from Draper Corp. (F-11)

Loom drive—That gives maximum pulling power with minimum tension and keeps grease from the clutch is illustrated in bulletin from Bahan Textile Machinery Co. (F-12)

Industrial rolls—A 48-p. catalog with complete information on how to buy metal, rubber, wood, and plastic rolls is offered by Rodney Hunt Machine Co. (F-13)

Nylon cap-bar tips—For roving and spinning are described in mailer that includes a sample tip. Saco-Lowell Replacement Parts Div., Saco-Lowell Shops (F-14)

Adjustable-speed drive—With ratings from ¾ to 7½ hp. designed to supply precise operating speeds for process machinery is described in technical bulletin that gives dimensions and other engineering information. Louis Allis Co. (F-15)

Electronic air cleaners—That require less space than other high-velocity precipitators and have an efficiency of 97% as determined by the dust-spot test method are described in bulletin from American Air Filter Co., Inc. (F-16)

CHEMICALS & SUPPLIES

Warp size—For spun man-made-fiber yarns is described in technical data sheet that includes detailed information on properties, range of viscosities, and applications. A. E. Staley Mfg. Co. (F-17)

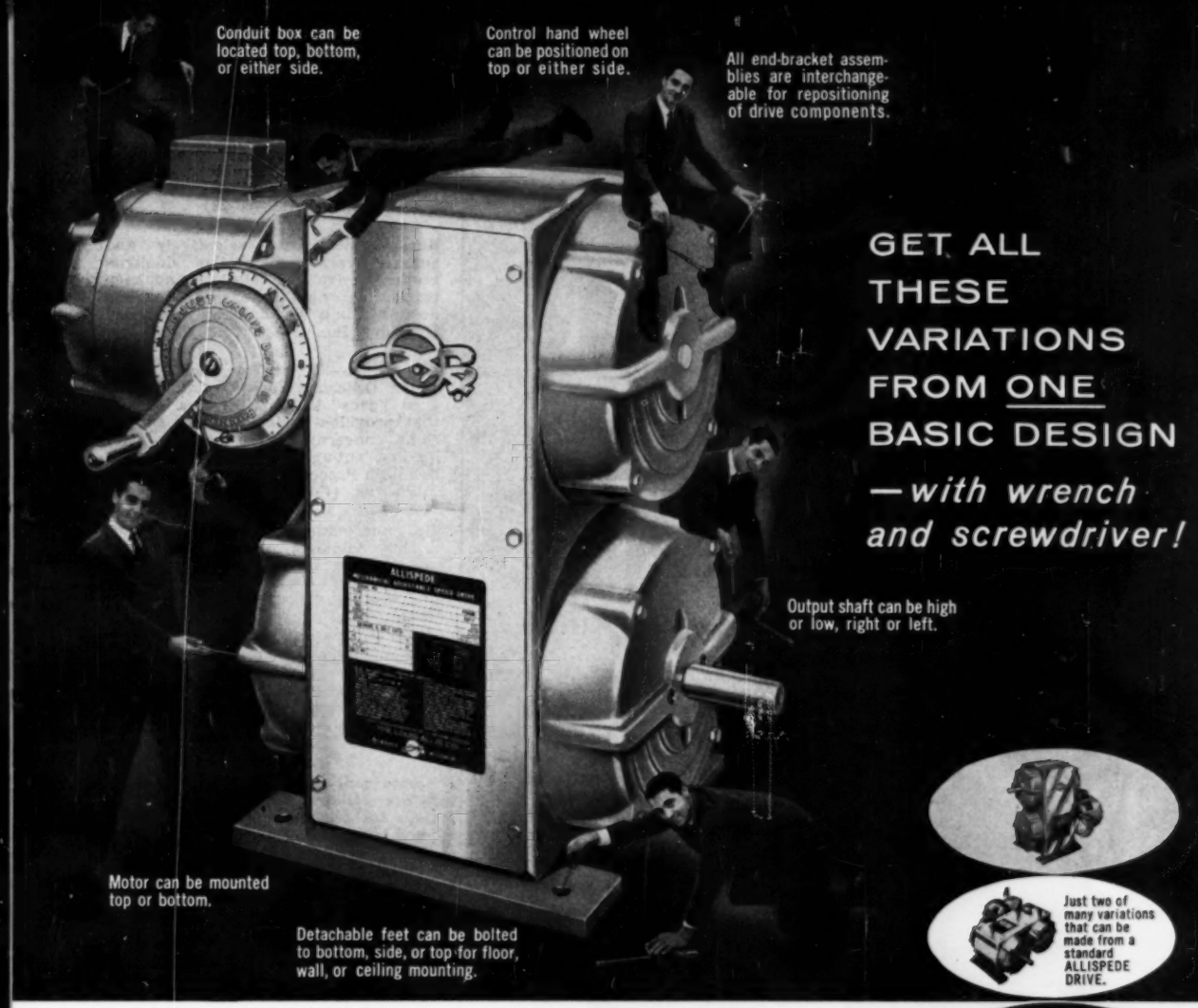
Sodium formate — A low-molecular-weight, water-soluble crystalline powder for pH control is discussed in a new 8-p. booklet that gives product specifications, typical properties, and outstanding characteristics. Heyden Chemical Div., Heyden Newport Chemical Corp. (F-18)

Vinylon — Properties, characteristics, processing data, and applications of the polyvinol-alcohol fiber are given in a bulletin from Air Reduction Chemical Co. Div., Air Reduction Co., Inc. (F-19)

Man-made-fiber thread—Made especially for sewing man-made-fiber garments is discussed in bulletin that gives breaking strength and other physical properties of the various fibers. Information is primarily for manufacturers of wash-and-wear fabrics and garments. Textile Fibers Dept., E. I. du Pont de Nemours & Co. (F-20)

Wool-pleating solution—And its application is described in "Wool Science and Technology Report No. 4" from Wool Brueau, Inc. (F-21)

Phthalic anhydride—Used as a dye


Conduit box can be located top, bottom, or either side.
Control hand wheel can be positioned on top or either side.
All end-bracket assemblies are interchangeable for repositioning of drive components.
Output shaft can be high or low, right or left.
Motor can be mounted top or bottom.
Detachable feet can be bolted to bottom, side, or top for floor, wall, or ceiling mounting.
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—with wrench and screwdriver!

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The *all-new* ALLISPEDE DRIVE is the answer to any motor application that calls for low-cost adjustable speed. It permits smooth, easy speed adjustment — and maintains it exactly. Its modern design permits unusual field-flexibility — lets the user change the unit *any time* to suit his various requirements.

The a-c ALLISPEDE DRIVE is the *only* drive that can be fully adapted in the field by the user. The basic unit goes together like building-blocks . . . feet, end brackets, control hand wheel, conduit box, and output shaft can be relocated in minutes to fit existing space limitations. The same unit can be changed from an upright to a horizontal drive for floor, wall or ceiling mounting. And all you need is a wrench and screwdriver!

Superior design improves drive efficiency and extends service life. The four bearings equally distribute belt load, increasing bearing and belt life. Movable discs slide smoothly on internally-lubricated splined shafts — won't stick in place or wear. Belt changes are faster — never disturb the dial or adjustment mechanism. Rugged cast-iron housing with plated steel covers shields drive against dirt and corrosion . . . integral rotor fan cools the motor and force-ventilates the drive housing to extend bearing life. Oversize cartridge bearings are pressed on shaft and lubricated at the factory. Corrosion-resistant stainless steel nameplates diagram proper motor connection, specify bearing sizes, and carry complete instructions for operation and lubrication.

The ALLISPEDE DRIVE can be supplied with in-line or right-angle integral gears, brake and tachometer. Sizes from 1 to 20 HP with speed variations up to 8:1. Electrical and mechanical modifications are available to meet special requirements for any application.

Contact your Louis Allis District Office or Distributor for complete information and engineering assistance. Or write for Bulletin 3300, The Louis Allis Co., 443 E. Stewart Street, Milwaukee 1, Wisconsin.

**ALLISPEDE is a trademark of The Louis Allis Co.*

ASD-118

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Portable Platform Scale

MODERN FUNCTIONAL STYLING

- **reads quickly and clearly under all lighting conditions!**
- **moves easily through narrower aisles!**
- **stays accurate and sensitive under roughest conditions!**

Designed for your most exacting requirements—built for years of heavy-duty use—this new Fairbanks-Morse Model 1124A Portable Platform Scale helps speed your operations through faster, more accurate weighing!

Note the big, clear beam design that promotes quicker reading—the new square weights for easier handling! Check the new concealed wheels, the compact overall width—important for fast handling in congested areas. Notice the absence of check rods, to eliminate binding. From top to bottom this is a handsome, durable scale designed to use—built to last—a worthy successor to the hundreds of thousands of famous Model 1124 Scales proven throughout industry! Capacity 1000 lbs. Write Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago 5, Illinois, for new Model 1124A Catalog.

See Sweet's Plant Engineering File for full line of F-M Scales.

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GENERATORS • COMPRESSORS • MAGNETOS • HOME WATER SYSTEMS

intermediate is discussed in a booklet that gives chemical structure, methods of handling, and applications. Reichhold Chemicals, Inc. (F-22)

Borohydrides—That selectively and quantitatively reduce the aldehyde groups in oxidized cellulose and keep textile materials from yellowing are described in a 16-p. booklet from Metal Hydrides, Inc. (F-23)

Dyed yarn—"What You Should Know When Ordering Yarn Dyeing or Colored Yarns" is the title of a booklet that provides basic data and suggestions concerning yarn quality, color quality, put-up, storing, shipping, etc. Franklin Process Co. Div., Indian Head Mills, Inc. (F-24)

Ethylene amines—65-p. book for research chemists and technical personnel that covers properties, reactions, uses, first-aid technique, handling and storage, property graphs, and other technical data is available from Organic Chemical Intermediate Sales, Dow Chemical Co. (F-25)

Textile auxiliaries—Are described in full detail as to properties and uses in a 200-p. catalog from Metro-Atlantic, Inc. (F-26)

Fluorescent and phosphorescent pigments—Known and potential applications and technical data concerning 15 pigments that glow in the dark are described in a brochure from United States Radium Corp. (F-27)

ENGINEERING & MAINTENANCE

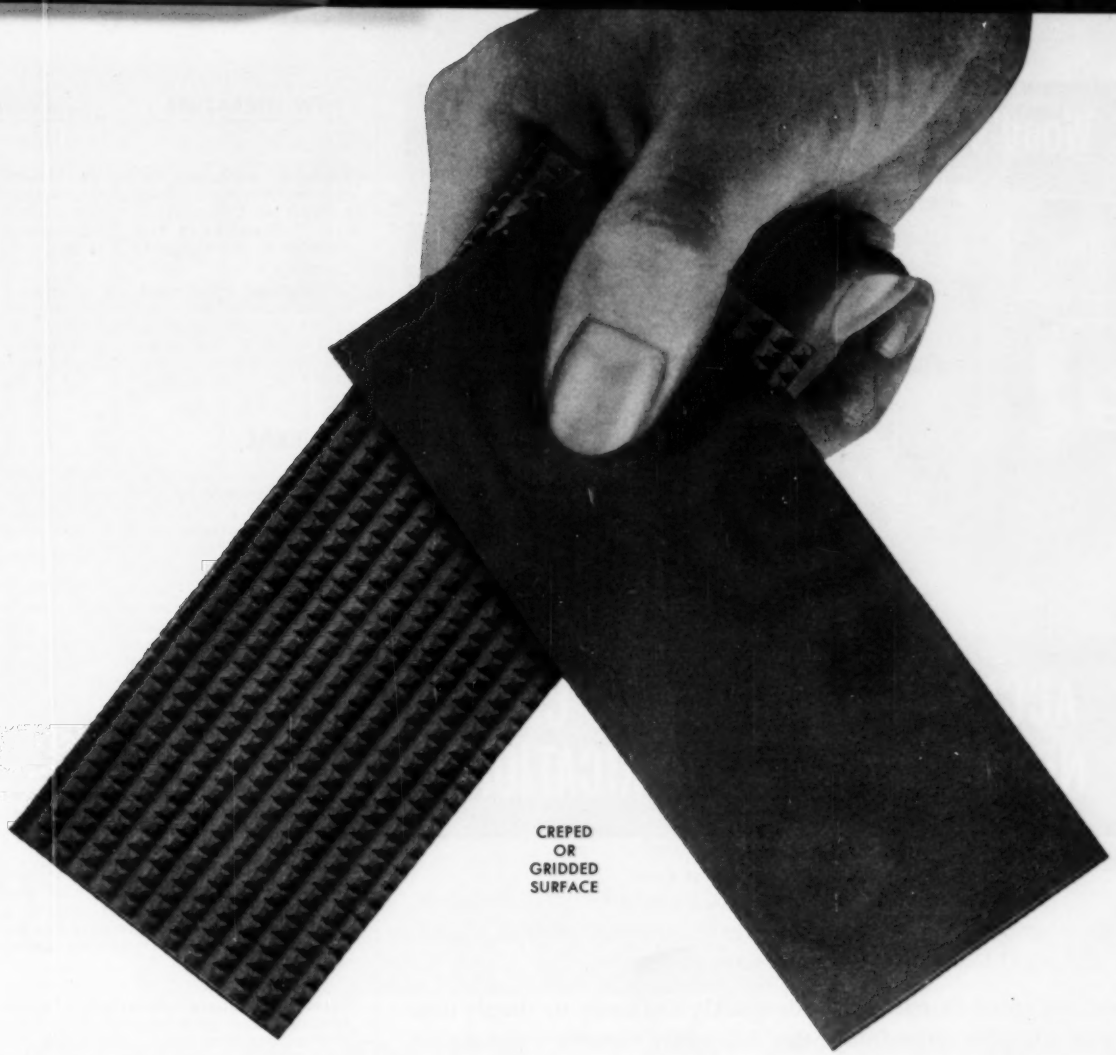
Cog belts—With an increase of 200 to 300% in horespower ratings over standard V-belts are announced in a bulletin from Dayton Rubber Co. (F-28)

Heat-transfer unit—Fabricated from a group of two resistance-welded embossed metal sheets instead of pipe coils is covered in technical bulletin that gives specifications, dimensional data, technical data, and calculating methods. Plasticoil Div., Tranter Mfg., Inc. (F-29)

Vibration control—Machine mountings and couplings designed to cut down noise and vibration are described in several technical bulletins that give specifications and applications. Lord Mfg. Co. (F-30)

Drive lubrication—A technical bulletin, "Lubrication of Roller and Silent Chain Drives," that covers principles of lubrication, maintenance, and oil selection is available from Sun Oil Co. (F-31)

Portable air hoists—Bulletin describes two hoists that can be moved and installed by one man. One hoist weighs 39 lbs, and lifts 1,000 lbs. at 45 ft. per min.; the other weighs 56 lbs. and lifts 2,000 lbs. at 22 ft. per min. Ingersoll-Rand Co. (F-32)



This high-friction loom take-up roll cover gives you good fabric control

Firm, uniform tension on loom take-up rolls can help you turn out top-quality cloth, shift after shift.

To get such performance, many mills are switching to NO-732, a special synthetic rubber cover developed by Armstrong research. This compound delivers up to twice the holding power you'd normally expect from a rubber material.

NO-732 provides firm, even take-up tension from selvage to selvage and helps to eliminate fabric defects resulting from poor fabric control. And . . . with most fabrics . . . NO-732 will give you years of service.

Armstrong NO-732 is available with either a creped or gridded surface. Both provide the high friction that means unusual holding power. You can test this right at your desk. Just rub a sample of NO-732 across your shirt sleeve . . . or a piece of the cloth you weave. Note how it grips. Then arrange for a full-scale test. Your Armstrong man will be glad to help.

For test samples, write Armstrong Cork Company, Industrial Division, 6907 Dauphin St., Lancaster, Pa.

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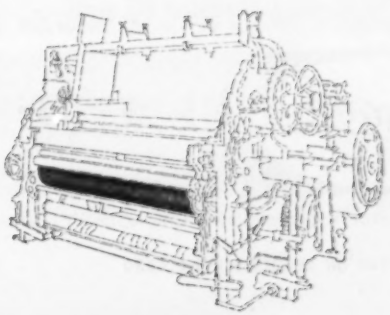
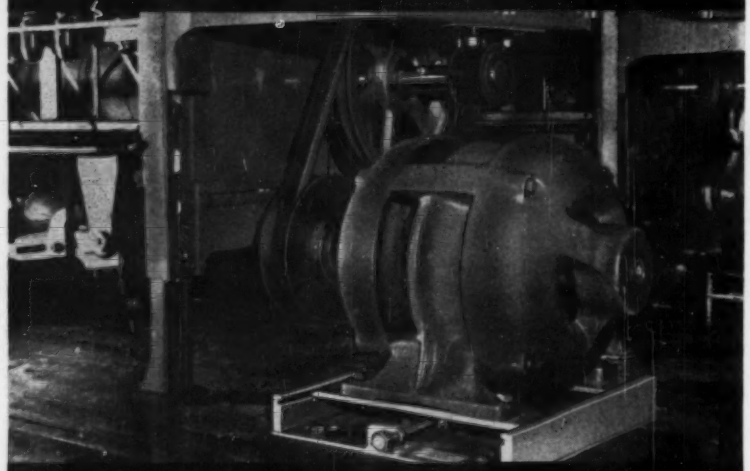


CIRCLE 143 ON READER SERVICE CARD

Wood's "VPS" Variable Speed Drives



ACCURATE, SIMPLE, LOW COST
NO FREEZING, NO LUBRICATION

Wood's "VPS" Variable Speed Drives offer all of the advantages of simple, accurate and wide range speed control without freezing or sticking at lower operating and maintenance costs.

Accurate speed changes are made quickly and easily by simply turning an adjusting screw from either side of the variable speed sheave. Both flanges move simultaneously, eliminating belt misalignment, minimizing wear. A single wide range belt provides speed range ratios up to 3 to 1 for motors from 1 to 20 horsepower.

Positive locking collars clamp the adjustable flanges securely into place, eliminating fretting corrosion, freezing and sticking. No lubrication is necessary. Shaft overhang is less. There's no matching of belts. And don't forget, all of your costs are lower costs.

WRITE FOR BULLETIN 1100

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144 CIRCLE 144 ON READER SERVICE CARD

Mercury switches—Revised catalog gives photographs, dimensions, ratings, application information, and technical data. Micro-Switch Div., Minneapolis-Honeywell Regulator Co. (F-33)

Low-voltage equipment—A condensed buying catalog gives specifications and prices of items such as circuit-breaker load centers, fuse puller panels, safety switches, panel boards, etc. Distribution Unit, General Electric Co. (F-34)

GENERAL

Air-tube conveyor—For sending samples and papers to a central location is described in illustrated bulletin that shows applications and gives technical data. Lamson Corp. (F-35)

Quality control—Booklet describes courses in polyvariable experimentation statistical methods that are useful in process engineering and research and development. Statistical Engineering Institute. (F-36)

"Business Investment Analysis"—A 40-p. book devoted to the nature and use of investment formulas from the rule-of-thumb approach to MAPI forms and charts. Of interest to executives. Machinery and Allied Products Institute. (F-37)

Air freight—Booklet describing service and an air-cargo selection chart that gives the cost of different classes of freight by pounds and distance carried are available from Delta Air Lines. (F-38)

Corrugated board—Description, specifications, and performance data for a new moisture-resistant board are covered in technical bulletin from Hinde & Dauche. (F-39)

POINTERS FOR SUPERVISORS

CONTINUED FROM PAGE 103

seems to prefer the new setup."

3. Long-range-implications: "By supplying work uniforms, the company will cut down on contamination. But in addition, it's also going to take a load off your home laundry bills and will cut down on personal outlays for work clothing."

Accentuate the Positive, But . . .

Don't hide the negative aspects in your answer. Note that in the example used, the supervisor didn't try to brush aside the inconvenience or discomfort some people would feel.

Two objectives are accomplished by frankness in discussing the cons as well as the pros:

1. You show your people that you're giving a realistic and honest appraisal

72 REASONS WHY TEXTILE WORLD READERS ARE THE BEST-INFORMED TEXTILE MEN IN THE WORLD!

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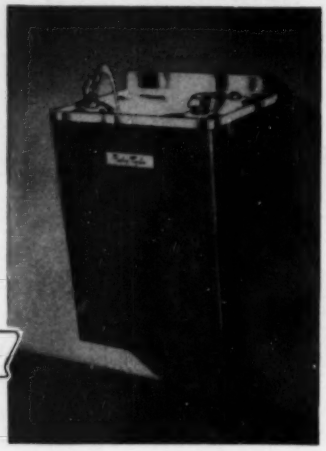

. . the revolutionary new cooler that is mounted on the wall, off the floor

Now, for the first time the Halsey Taylor Wall-Mount brings you a cooler without cleaning or maintenance problems. Since it's mounted on the wall there are no corners or crevices to catch the dirt. And because all plumbing connections are *within* the cooler, the usual dirt-traps behind the cooler are eliminated.

Stainless steel top is contoured for easy cleaning; wall face splash is an integral part of the top. Available in 3 sizes, 6, 11 and 16 gallons.

Write at once for full information

WM-2 *The Halsey W. Taylor Co., Warren, Ohio.*

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SPECIALIZED ENGINEERING
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of the situation.

2. By bringing the elements that make for dissatisfaction out into the open, you prevent the dissatisfaction from festering and growing, as would be the case if your people thought you were giving a one-sided view.

The Answer for Cost Cutting

One of the most important situations in which you get the "What's-in-it-for-me?" pitch is in connection with cost-cutting efforts. A study was conducted in which supervisors used three different themes in explaining the implications of cost cutting:

1. Increase in company profits
2. Increased job security
3. A means of keeping old customers and getting new ones

It's an interesting fact that the customer reason for cutting costs was more effective with employees than even the theme of increased job security.

This study gives you an important guide. In thinking of the implications both short- and long-range of a move, be sure to touch on the elements that your people will grasp more easily.

The need for customers hits home because employees these days are much more economically sophisticated than they were 10 or 15 years ago. Realizing the importance of the customer, they see the clear connections between their own interests and a cost-cutting effort—the simple answer to "What's in it for me?" The company that has customers will continue to have jobs.

GEORGIA SPINNING FORUM

CONTINUED FROM PAGE 58

planning to try some covers with ridges running at an angle to the cot."

Mill U—"We have 40 frames equipped with these clearers. Over 75% of our top-roll lap-ups have been eliminated, and we have added a side to our spinning jobs. More covers are on order."

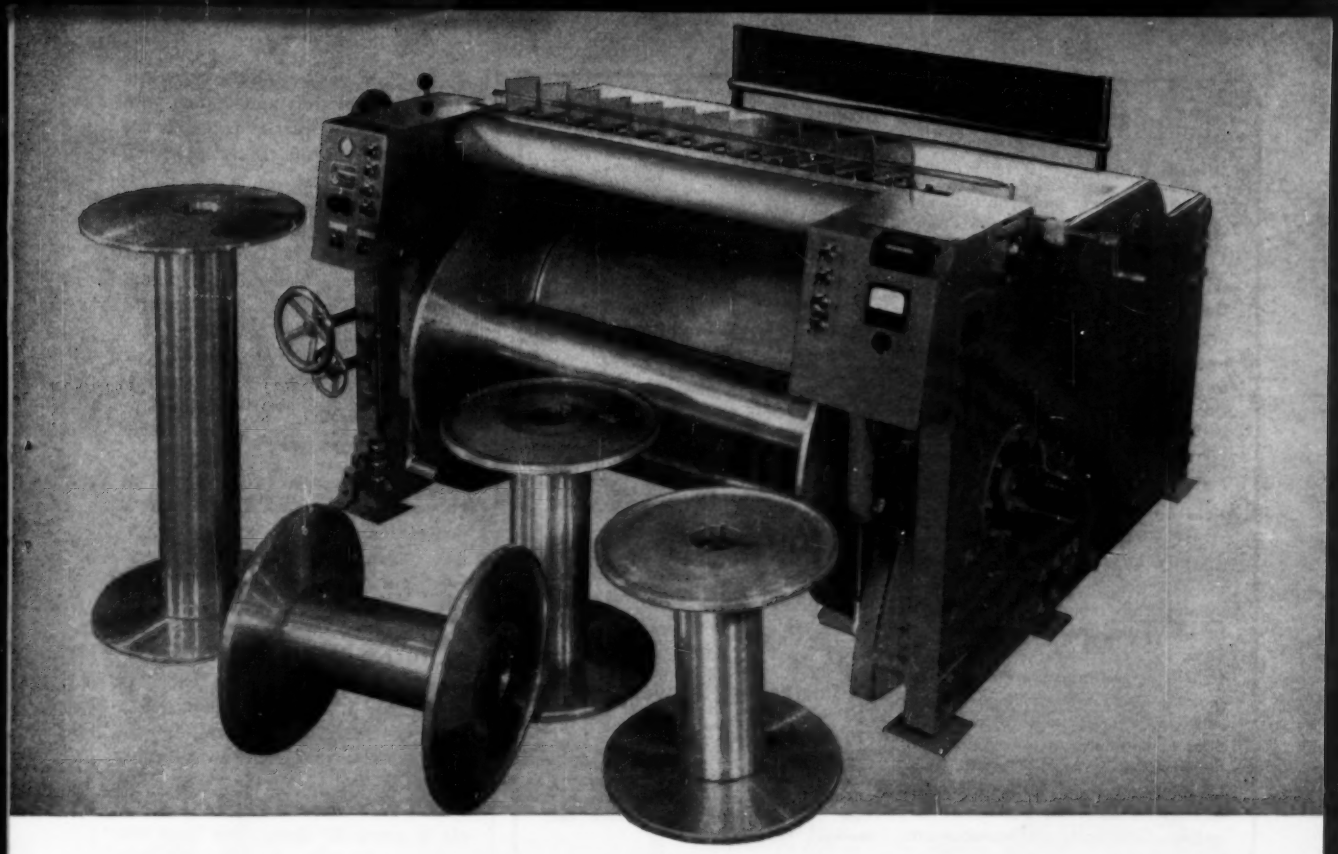
ROLL CLEANING AND CHOKES

Schedules for scrubbing steel rolls range from not at all to every two months. Most mills take the rolls entirely out of the frame for cleaning.

Mill A—"We have scrubbed our steel rolls only once in 15 years. Our experience is that the operation does not justify the lost production. How-

CIRCLE 146 ON READER SERVICE CARD

CIRCLE 147 ON READER SERVICE CARD→



Use any of these beams on this Versatile Warper

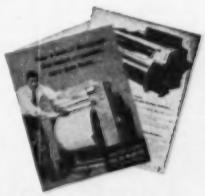
The versatile Kidde-Sipp Warper Model 149B is built to take a 50" beam, up to 32" in diameter—BUT it can quickly be converted to take a 42" beam, or even two 25's or two 21's.

If you don't need this flexibility, of course, you can get Model 149A. This warper can be furnished to accommodate either a 50" or a 42" beam.

Both models are dependable and sturdy, as are all Kidde-Sipp warpers.

Here are some other features of Kidde-Sipp Model 149 Warpers:

- Speed range is 8 to 1 (75 to 600 YPM).
- Electric brakes have independent rheostats for synchronized stops.
- Pressure roller and diversion roller are synchronized by a timing belt.
- You can choose either a fan reed or a positive expansion reed.
- Hydraulic action makes beam doffing work a girl can do single-handed.
- Beam tape attachment helps keep ends set in position.
- You get predetermined revolution and yardage counters.

The Model 149 is part of a line of dependable Kidde-Sipp Warpers. We'll be happy to supply you with detailed folders, which describe every warper we have. Write to Kidde Textile Machinery Corp., Bloomfield, N. J. Or phone Mr. Ruddick at PIlgrim 8-8100 in Bloomfield.

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Kidde

TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

CIRCLE 147 ON READER SERVICE CARD

Some Important Facts about Rotating Joints

Original Costs

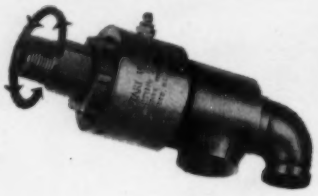
are comparatively small, and the difference in cost between the ROTARY UNION and the cheapest joint is insignificant.

Operating Costs

often vary as much as 300% and the mal-functioning of any joint can cause serious losses in quality and production. Even slight steam leaks cost dollars before they are noticed, and joints which need constant attention increase labor costs.

Here are the Advantages of the ROTARY UNION*

The ROTARY UNION is a ball bearing precision mechanical seal which automatically maintains a perfect seal for many thousands of hours. It uses no springs or packings. The ROTARY UNION is self-adjusting to surges in pressure and automatically compensates for wear. Flexible hose connections compensate for misalignment of machine adaptors. The ROTARY UNION requires no mechanical maintenance—minimizes downtime and reduces labor costs and replacements.



Ball bearings cut power needs. The ROTARY UNION is field repairable or may be returned for factory reconditioning.

The ROTARY UNION is your most economical and reliable joint for slashers, dry cans, calenders, embossers and printing and coating machines. For full information write for Bulletin 700W.

* Trade Name—Patented

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★ HIGHER QUALITY!
★ MORE PRODUCTION!
★ MORE PROFIT!

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PNEUMATIC LAP CONTROL SYSTEM

Fully protected by U. S. Patent No. 2,871,519 (other pats. applied for). ONLY control system delivering uniform pressure on the calender stack roll, from start-up to doffing. May be applied to all existing pickers—calender roll, fluted roll or both.

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with *new figures.*

This popular booklet points up the important sales problem of personnel turnover in industry. Out of every 1,000 key men (over a 12-month period) 343 new faces appear . . . 65 change titles . . . 157 shift . . . and 435 stay put. These figures are based on average mailing address changes on a list of over a million paid subscribers to McGraw-Hill magazines.

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eve., we do remove the top rolls and clean the steel rolls and aprons with fingers every 12 weeks. Top rolls are cleaned with a roll picker every 80 hrs.

"We spin 1-in. Middling cotton from 0.72- to 1.80-hk. roving with 12.15 to 15.50 draft. Twist multiplier is 4.75 for warp and 4.32 for filling. Front-roll speed is 175 to 200 rpm., and spindle speed is 7,900 rpm."

Mill J—"Scrubbing cycle for our double-apron drafting is five months. We have not tried replacing the top-cage section to extend the scrubbing cycle.

"All bottom rolls are removed at the same time for cleaning. No scheduled cleaning is done between scrubbing cycles except for brushing steel rolls and brushing between aprons with a small finger brush once every two weeks. At the same time, back lap sticks are cleaned.

"We spin SLM cotton into 31s warp from 1.25- to 1.58-hk. roving. Front-roll speed is 133 rpm., spindle speed 10,400 rpm., and twist multiplier 4.48."

Mill U—"Our roll-scrubbing schedule is every 63 days. We have not replaced any cage sections. All rolls are removed for scrubbing. Between cleaning cycles, chokes are removed when they are flagged by spinners."

Lower Humidity Reduces Chokes

Nearly all the reporting mills said that they have trouble with lap-ups and chokes. Lower humidity and softer cots helped solve the problem in some instances.

Mill A—"We reduced top-roll lap-ups by lowering the relative humidity 20% and installing SG-60 cots on the front top roll. Cotton used is LM and SLM."

Mill B—"We have very few lap-ups on antifriction rolls covered with No. 728 and J490 cots. Lap-ups are quite prevalent on frames where we oil rolls."

Mill M—"We reduced chokes by lowering relative humidity 7% and putting softer cots on rolls."

Mill T—"We keep chokes under control by keeping suction-cleaner orifices clean and by blowing lint off the frame with an overhead cleaner."

Mill U—"The best thing we have found to prevent top-roll lap-ups is the corrugated rubber clearer. We use solid rolls covered with SG-60 and J490 cots."

CONTINUED ON PAGE 150

USED IN TEXTILE MILLS AROUND THE WORLD

BARBER COLMAN

WARP TYING MACHINES

FOR

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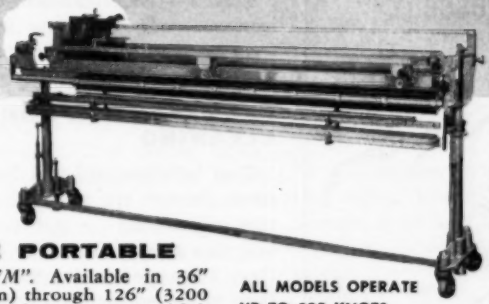
MOHAIR • SILK • SYNTHETICS

SUITABLE MODELS FOR ALL CONDITIONS



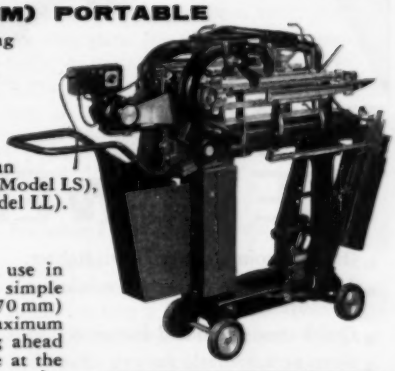
WIDE PORTABLE

Model "M". Available in 36" (915 mm) through 126" (3200 mm) maximum warp width capacity. Multiple frames permit advance loading. Three types provide different methods of selection.

ALL MODELS OPERATE UP TO 325 KNOTS PER MINUTE CONTROLLED BY VARIABLE SPEED MOTOR DRIVE

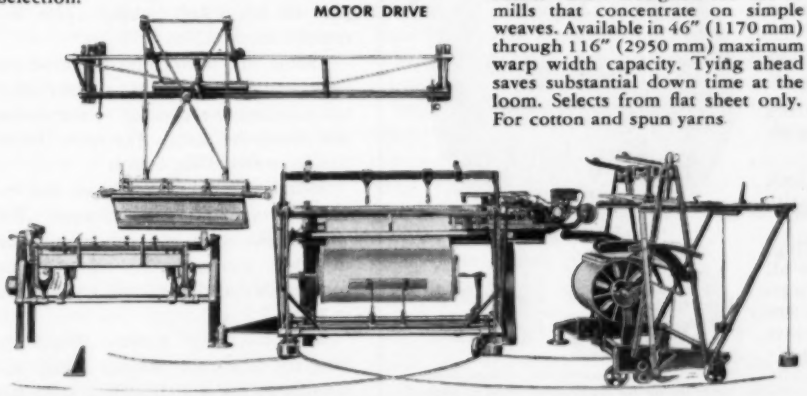
15" (380 MM) PORTABLE

Model "L". For tying at or away from the loom as well as in congested areas. Three types provide selection from flat sheet (Model LC), from an end-and-end lease (Model LS), or from either (Model LL).



STATIONARY

Model "EL". Designed for use in mills that concentrate on simple weaves. Available in 46" (1170 mm) through 116" (2950 mm) maximum warp width capacity. Tying ahead saves substantial down time at the loom. Selects from flat sheet only. For cotton and spun yarns.



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ATLANTIC CITY, N.J.

MAY 23-27, 1960

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CONTINUED FROM PAGE 148

RINGS AND TRAVELERS

High-speed spinning rings and nickel-finished travelers were discussed by a number of mills. Good results were reported in most instances.

Mill C—"We break in high-speed rings by changing travelers at intervals of 2, 16, and 24 hrs.; afterwards we change every 120 hrs. Yarn number is 26s, front-roll speed 125 rpm., traveler speed 6,368 ft. per min., and spindle speed 9,492 rpm. Ring life has not been determined because the rings have been running only eight months."

Mill E—"We break in high-speed rings by changing travelers after the first 30 mins. and then at 12-hr. intervals for three more changes. Nickel-finished travelers are used, and they show no wear after 120 hrs. We are spinning 25s warp with a front-roll speed of 150 rpm. and a twist multiplier of 4.25. Ring diameter is 2¼ ins."

Traveler Life Is 72 Hours

Mill J—"We break in high-speed spinning rings by changing travelers after the first 30 mins. and then at intervals of 1, 2, 4, and 8 hrs. The 8-hr. cycle is maintained for three weeks.

"We spin 31s warp with a front-roll speed of 133 rpm. Spindle speed is 10,400 rpm., traveler speed 5,400 ft. per min., and traveler life 72 hrs."

Mill C—"Life of nickel-finished travelers is 360 hrs.; we do not believe this increased running time justifies the additional cost."

Mill E—"We run some travelers as long as 432 hrs. at 5,800 ft. per min."

Mill J—"Nickel-finished travelers increased our changing frequency from twice a week to once every three weeks."

FRAME AND APRON CLEANING

Two mills reported that frame and room cleaners cut spinners' cleaning time substantially. A number of mills said that top-apron loading is giving them a lot of trouble. Several solutions to the problem were offered.

Mill B—"Our frame and room cleaner cut spinners' cleaning time from 35 to 11 mins. per 100 spindles per 40 hrs. Roll-picking cycle increased from 72 to 209 hrs.

"Some lint blows into the drafting zone, and slubs increased slightly after we installed the cleaner. Ends down are about the same. We spin 21s to 31s from Middling cotton."

Mill U—"Our system does not include a vacuum floor cleaner. We wipe backs once and rub rails twice in 8 hrs. Formerly, we wiped backs four times and rubbed rails eight times in 8 hrs."

Mill C—"Top aprons frequently load up when the bottom apron accumulates lint and transfers it to the top apron. This action can be prevented by installing a clearer on the bottom apron."

Mill I—"We use rubber aprons and have no loading problem."

Mill J—"Top-apron loading is caused by oil. About once every five months we wash the aprons."

Mill N—"Chokes and fly under aprons are caused by pneumatic roll

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pickers. We stopped using this type of roll cleaner."

Mill V—"Air currents from overhead cleaners is the biggest cause of lint getting into aprons. Proper direction of air is the best remedy."

NYLON SPINNING TAPES

Reporting mills almost unanimously were in agreement that nylon tapes will last twice as long as cotton tapes, cut labor and power costs, and increase production by reducing downtime.

Mill A—"Nylon tapes last twice as long as cotton tapes and give little trouble in bonding. Labor cost is reduced because fewer tapes are needed."

Power Cost Cut 7 to 15%

Mill C—"We've had no trouble with nylon tapes and find that they cut power cost 7 to 15%. The nylon-cotton tape is not satisfactory because of bonding difficulties."

Mill F—"We tested nylon and cotton tapes for 9,692 hrs. Only 12.3 of the nylon tapes had to be replaced, compared with 22.9 cotton tapes. We've had no trouble with the bonds coming loose."

Mill K—"We started a test frame in August 1955 and ran it 18,288 hrs. Four nylon tapes were replaced, compared with 13 cotton tapes."

WARPING

A number of mills reported trouble with lost ends at warping. Several suggestions were made as to corrective action.

Mill A—"The maximum number of ends depends on the yarn number and length of the beam. Our creels are equipped to handle 540 ends, which is our maximum at present. Yarn numbers range from 8.50s to 12.75s; 328 to 496 ends are put on the beam and run at 335 yds. per min. We run four to five beams per set. Operators record lost and extra ends."

Mill B—"About 330 ends maximum give us fewer lost ends than when we put more ends on the beam. Speed is 900 yds. per min., and beams per set average 14. Yarn numbers are 21s to 31s.

"We control lost ends by making a good cheese and keeping brakes and drop wires in good condition."

Mill R—"We are limited by the section-beam capacity of our creels. A typical set is 24s yarn on 12 beams with 463 ends each. Speed is 750 yds. per min.

"We tried to control lost ends by having slasher tenders mark up lost ends on section-beam tags. The system was not successful, however, because of the inconsistent manner in which the slasher men marked the tags.

"About every six months, we check drop wires at each warper by putting the cam in high position and using a light. If the drop wire is functioning correctly, the light comes on when the wire falls."

UPGRADING FIXERS

CONTINUED FROM PAGE 53

"Filling numbers are 30s and 40s, and fur is used to tension the filling."

Mill B—"Our shuttles are checked twice a week by the loomfixer, once by the assistant foremen, and spot-checked by the foreman.

Mill Uses Fur, Bristles, and Loops

"Filling numbers are 9.40s to 21.90s. For filling tension, we use fur and bristles; in a few looms, we use nylon loops. When yarn is changed from light to heavy, or vice versa, we do not change the type of tension but we change the amount."

Mill C—"Once a week each loomfixer checks one-third of his looms for binder leather, front box leather, pickers, shuttle fur and bristles, shuttle screws, and bobbin alignment. Then he dresses the shuttles. Filling is 21s, and we use fur and a bottom bristle."

Mill D—"Looms are divided into thirds; and each Friday each fixer checks shuttles for loose springs, rough places, and bad bristles. Then shuttles are dressed with tallow.

Three Men Check New Shuttles

"Before a new shuttle is placed in a loom, loomfixers align the lays. The head loomfixer and foreman check this alignment.

"Filling is 3.05s to 14s, and we use fur and bristles."

Mill E—"Looms are checked by the loomfixer once each week. He dresses them with sandpaper and replaces fur and nylon loops where they are needed. Filling is 4½s to 15½s, and we use fur and nylon loops as a tensioning material."

Mill F—"On Thursdays, each loomfixer checks his loom assignment in this way: sees that the groove in the shuttle is correct, sandpapers the shuttle and dresses it with tallow, replaces faulty bristles and fur, tightens springs, and corrects quill alignment.

"He also checks the leather on binders, box fronts, and back box plates. He checks pickers, lay-end plates, and race boards for good condition. In addition, he sees that shuttle screws are not cutting reeds."

Few Mills Record Filling Stops

Mill G—"Our method of shuttle maintenance and filling-tension control is to have loomfixers check shuttles thoroughly at warp-outs. And at the beginning of each shift, each loomfixer checks and polishes all shuttles on one-fifth of his assigned loom-maintenance layout.

"Filling numbers range from 13s to 43s, and nylon loops are used for tension. We don't change tensioning material for different filling numbers, but we vary the amount used."

Only a few mills keep records on their filling stops per loom hour. Here are the stops by filling number and mills: 4s (soft twist) 0.38, 7.50s 0.196, 8.25s 0.217, and 12.75s 0.281; 8s to 30s, 0.08 standard; 13s 0.330; 6.25s to 27s 0.0899; 3.50s to 30s 0.67 to 0.84; 12s 0.29; 15½s 0.31; 15/2 0.36; 2.65s to 12s 0.36 to 1.12.

Portable Tying Brings New Problem

In mills where portable warp tying is used, worn harnesses and parts often become a big problem because patterns stay in looms so long. Here's how mills are overcoming this problem:

Mill A—"We change patterns often enough that there's no difficulty with harness repairs in the loom. But we do have a problem with harnesses rusting in the loom.

"When patterns are taken out of a loom, our harness-repair man cleans, polishes, and repairs harnesses. We use a drawing-in machine and therefore do not save patterns taken from looms."

Mill B—"Our patterns do not stay in the loom long enough to require many repairs because we change styles so frequently. But when repairs are necessary, a drawing-in-room employee goes to the weave room to make them.

"When a style is changed at the loom, we cut out the pattern and send it to the drawing-in room. Here

employees inspect harnesses, hooks, heddle eyes, ribs, reed, drop wires, and drop-wire bars. Then they make necessary repairs."

Mill C—"To maintain harnesses in a loom, smash hands replace broken heddle eyes. Loomfixers replace broken harness ribs, hooks, eyes, and frames.

"Before a pattern is removed from a loom, it is checked for physical condition and repairs needed are recorded on a ticket. When the pattern is removed from the loom and returned to the drawing-in room, repairs are made by the ticket. Harness ribs are sprayed with rust preventive."

Mill D—"Loomfixers replace worn or broken harness ribs. If harnesses become worn too badly, we cut out the pattern and send it to the drawing-in room for repairs."

GEORGIA CARDERS

CONTINUED FROM PAGE 57

tolerance. No change has been observed in lap uniformity or card waste since the equipment was installed. We do not use a pin pusher."

Mill S—"We make a 20-in.-dia., 14.5-oz., 70.7-lb. lap with air pressure; tolerance is ±1 lb. Variation has increased slightly, and there are more damaged laps at the cards. We use the Saco-Lowell rack release and an American MonoRail conveyor system."

FIBER ADDITIVES

Fourteen mills reported on the use of oil and other fiber additives at the opening line or pickers. Most of the plants said that the additives reduce static and fly and have little or no effect on yarn strength. However, one mill reported from the floor that ends down decreased 10% and weaving efficiency went up 2% when an additive was applied.

Mill A—"When we applied 0.42% oil at the middle beater of our three-beater single-process picker no gain was noticed in the weight of laps, sliver, or roving. There was a very slight increase in yarn strength.

"The oil stopped static at the cards and drawing frames and reduced it at spinning. There was a reduction in lint and dust at the cards and drawing frames, and working conditions improved in general."

Mill D—"When we are running man-made fibers, a 0.3% oil emulsion is applied at the tinting machine in the opening line. The only advantage is in preventing static."

Fewer Fibers Are Broken

Mill H—"The addition of 1½% UNO-X1 at the blending feeder appeared to reduce the loss of short fibers and prevent the breakage of long fibers in cleaning.

"Our lap weights and finisher-drawing-sliver weights increased 3%; there is less lint and fly around the cards. Otherwise, no changes were noticed."

Mill I—"We put 0.3% Tex Spray in the blending feeders. There has been a reduction of fly and shedding in nearly all departments, and the machines stay cleaner."

Mill S—"Application of 0.2% of Spinit AO at the Superior cleaners keeps our machines cleaner and makes the work run better. Yarn strength may have increased slightly."

CARD FLATS AND CLOTHING

Three out of six mills said that split-top card flats or hardened needle-point wire reduce neps and card strips and increase grinding and stripping cycles. The others had not completed tests on the flats and wires.

Mill A—"Metallic clothing used to card 1-in. LM and SLM cotton at 12 to 18 lbs. per hr. has reduced strips 26% and neps 33%. We produce a 65-grain sliver and strip once a week. No grinding cycle has been determined, as the clothing has been on the cards only two months."

Mill E—"We card 1⅛-in. cotton at 6½ lbs. per hr. and produce a 55-grain sliver from a 14.25-oz. lap. Our card strips and neps have been reduced substantially. We do not strip except with the spiral brush, and we grind every 12 months."

Mill R—"Our tests are not complete. Preliminary findings indicate that web appearance is better, but we have no comparison on nep counts. We card 1-in. cotton at 6.5 lbs. per hr. to produce a 65-grain sliver from a 14.67-oz. lap.

"Grinding cycle is 360 hrs.; stripping cycle is 2 hrs. and 40 mins. Strips have not been reduced significantly."

HIGH-SPEED DRAWING

While only a few mills reported on high-speed drawing, those who did report are pleased with the results. Several mills are running the frames at 300 to 400 ft. per min.

Mill R—"We have 64 deliveries running at 300 ft. per min. and 32 deliveries running at 400 ft. per min. on 1-in. cotton. Compared with our old four-roll machines, evenness has improved 20%.

"The original clearers gave us some trouble, but we changed them and have had no further trouble. We do not use revolving underclearers. Maintenance cost was $56.60 on the old frames; we have no figures for the new machines.

"The new drawing gives best results with 1.11 break draft, compared with 1.22 for the old four-roll machines. We run both staggered and solid creels. The former gives better evenness, but the latter is more efficient. Operators handle 32 deliveries each, and 16x42 cans at the front hold 35 lbs. of 65-grain sliver."

Mill S—"Our new drawing frames run 308 ft. per min. on 1⅛-in. cotton, 1½-in. rayon, and 1½-in. nylon. Break draft is 1.18, compared with 1.28 for the old four-roll machines.

"We run staggered creels and put 40.5 lbs. of 60-grain sliver into 16x42-in. cans. One operator runs 32 deliveries. Replacement parts cost more than for the old drawing; but except for clearers, maintenance amounts to very little."

Mill U—"We are running 208 deliveries of high-speed drawing at 400 ft. per min. Cotton ranges from ⅞-in. MLtsp to 1 1/32-in. SLMB. One operator handles 48 deliveries. The new drawing reduced variation from 25 to 16%.

"We have had very little trouble with pneumatic clearers, but it is mandatory that they be set correctly. We have no figures on maintenance cost.

"Break draft ranges from 1.48 to 1.60, compared with 1.27 on the old four-roll frames. We creel solid on breaker frames and on one delivery per doff at the finisher frames.

"The breaker creel has 18x42 cans that hold 42.5 lbs. of 62-grain sliver. A 64-grain sliver is fed into a 16x42 can that holds 37.5 lbs."

LARGE-PACKAGE ROVING

Nine mills reported how they increased the size of roving packages by converting old frames. Most of the mills added drop pressers and put one to three wraps on them. Only one mill had to change top cones. The changes had little effect on variation, and results generally are good.

Mill B—"We went from 10x5 to

12x6½ packages and increased weight on bobbins from 52 to 64 oz. by adding an extra wrap on the presser. Operators run three frames on 0.60-hk. roving and four frames on 0.90-hk. roving. Variation was not affected, and the top cone was not changed."

Mill G—"We now put 59 oz. on 12x6½ roving bobbins, an increase of 15%. We tried an extra lap on the presser. Weight increased, but frame efficiency fell off; so we stopped using the wrap."

Mill R—"Package weight increased 17% when we put on drop pressers. Addition of one wrap increased weight 19%. Present package sizes are: 10x5—30 oz., 12x6—46 oz., and 12x6½—57 oz.

"Variation was not affected, and top cones were not changed. Operators run four to six frames.

"In experimentally changing a 10x5 frame to an 11x5 frame, we made these changes: lengthened spindle 1 in., changed builder, changed to 11x5 flyer, lengthened carriage racks 2 ins., and raised the frame 1 in. off the floor.

Extra Wrap Causes Break

Mill T—"We were unable to increase our package weight appreciably by changing to a drop presser. Variation increased.

"Present 12x6 package weighs 43 oz. Several more ounces can be put on the bobbin by giving the presser an extra wrap, but we discontinued the practice because of excessive ends down."

Mill U—"The conversion of our 11x5½ frames to 12x6 frames gave us ½ lb. more on the bobbin. We gained 3/10 lb. by changing 9x4½ frames to 10x4¾ frames. Package weight increased over 6%. We use three wraps on the presser and get satisfactory results."

SLASHING EQUIPMENT

CONTINUED FROM PAGE 52

a very light cut of medium or fine emery cloth wrapped around a block of wood."

Buffing Cycle Averages Six Months

Mill B—"We use rubber-covered rolls made by two manufacturers. Size boxes have pneumatic loading.

"We buff both squeeze rolls and dresser rolls every six months. For buffing, rolls are placed in a lathe and cut at extremely high speed with a motor-driven emery wheel."

Mill C—"We use rubber-covered squeeze rolls on two-roll size boxes with good results on towel fabrics. Rolls from two manufacturers are used. To buff them, we put them in a lathe and grind them with a special emery-rock attachment."

Mill D—"We use rubber rolls from two manufacturers on double size boxes. We buff the rolls every four to six months and sometimes more often. To determine when buffing is needed, we use a densimeter and also observe the surface."

Buffing Rock Turns at High Speed

Mill E—"For three years, we have been using rubber rolls on double-roll size boxes. We use only one manufacturers' rolls and buff them every six months. Buffing is done in a lathe with a high-speed grinding stone."

Mill F—"Our rolls are all made by a single manufacturer. They are buffed only as needed and not by a specific cycle. They are buffed in lathes with grinding-wheel attachments."

Mill G—"We get good results with rubber-covered squeeze rolls on conventional size boxes. The rolls are from one manufacturer. Buffing is done on a grinding attachment in a lathe. The roll turns at 100 rpm. and the rock at 2,200 rpm., with both turning in the same direction."

Mill H—"We use only one manufacturer's rolls on double-roll size boxes. Buffing cycle is every 12 weeks. We use a 24-lb. 24-grit stone.

"The roll turns at 66 rpm. and the stone at 3,500 rpm., with the stone traversing the roll at 1½ ins. per min. The first cut is just deep enough to clean the roll thoroughly; the second cut dresses the roll."

Handling section beams between the warper and slasher creel has been mechanized in many mills. Several mills have electric hoists and monorails that almost completely eliminate manual lifting.

Hoists are also being used to remove full loom yarn beams from the slasher and place them in storage at most mills. But warp handling between the drawing-in room and loom is usually a manual job. Here's how four mills handle beams:

Mill A—"Section beams are doffed at the warper on flat trucks and are

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taken to scales where they are lifted with a chain hoist and weighed. Then a hoist and monorail take them to a storage area and place them horizontally on the floor in straight rows.

"As beams are needed in slashing, they are carried by hoist and monorail to the slasher creel.

"Heavy loom beams are doffed at the slasher with a hoist. Light beams are doffed by hand. Both are hauled away on two-wheel trucks. Warps for towel fabrics are stored in the weave room vertically. Horizontal storage racks are used for 56-in.-wide beams for ticking fabrics.

"Towel warps are drawn in on two-deck trucks and are left on these trucks until they're needed in weaving. Then they are lifted into the loom with a hoist. Ticking warps are put into looms by hand.

"Harnesses of patterns taken from looms are cleaned with compressed air and with a homemade machine. It has a motor-driven brush covered with card clothing.

"Patterns are stored on iron racks in an area with low relative humidity. Leases for 125 pattern are kept."

Mill B—"Section beams are doffed at the warper on hand trucks. Then they're pushed to scales only a few feet away. An electric hoist on a monorail carries the beams to storage racks in the slasher room. Beams for the slasher creel are removed from the storage racks by electric hoist and monorail.

"Loom beams are removed from the slasher with electric hoist and monorail. The beams are stored three beams high on a rack that has a counterbalanced loading gate at the front and back."

Dyed Beams Have Extra Handling

Mill C—"Beams are doffed on a truck at the warper and are pushed to the dyehouse, where they are set on end with an overhead hoist. After beams are dyed, they are left on one end in the dyehouse until they are needed in the slasher room. Then they are loaded on trucks and pushed to the slasher room for immediate use.

"At the slasher, section beams are loaded on the creel with a hoist. Loom beams are doffed at slashers with a hoist; there's a hoist at each slasher. The loom beams are put on trucks and pushed to a storage area. An empty loom beam is kept in front of each slasher to replace the full beam doffed.

"Full 40- and 60-in. loom yarn beams are stored upright in an area assigned to each beam size. Beams for multishuttle looms are stored parallel in a special rack four sections high.

"Empty loom beams are stored in this same way.

Drawn Warps Have Special Trucks

"Loom beams on drawn patterns are stored on special trucks that carry single- or double-beam patterns to the loom.

"We have portable tying-in machines and drawing machines; so we do not store harness patterns. We clean harnesses and oil the ribs each time a pattern is cut out."

Mill D—"All section beams are doffed on a beam truck at the warper and are pushed by hand to the back of the slasher creel. At the back of the creel, the beams are lifted off the beam trucks with a hoist and placed in tiers of storage racks made from angle iron.

"The same hoist removes the beams from the rack and places them in the slasher creel.

"Full yarn beams are doffed at the slasher with a hoist. They are placed on beam trucks and rolled by hand to racks where they are stored in upright positions. Empty loom beams are stored in this same way.

Air Cylinder Lifts Empty Beams

"Empty loom yarn beams are placed in position at the slasher by a pneumatic cylinder under the slasher-room floor. The piston comes through the floor and lifts the beam in position without manual lifting by the slasher man.

"Warps are retied on stationary machines. Retied warps are placed on beam trucks and rolled to the weave room, where they are stored until they're needed.

"Patterns lifted out of looms are blown off with compressed air and stored in iron racks until they are needed. Then they're retied."

LABELING-ACT RULES

CONTINUED FROM PAGE 44

lowed by the phrase "exclusive of ornamentation."

Similar provisions cover decorative trim such as braid, binding, collars, wrist bands, welts, findings, etc. if no fiber representation is made regarding trim and the trim does not exceed 15% or what is structurally necessary. Here the fiber data of the basic fabric shall be followed by "exclusive of decoration."

Similarly, in a product with elastic material not exceeding 20% of the surface area, the fiber data shall be followed by "exclusive of elastic."

A product made almost wholly of elastic yarn or material shall disclose the percentage of the elastomer as well as of the fibers. A product in part of elastic material and in part of other fabric shall set forth its fiber content sectionally.

FTC's definition of "elastic material" is a "fabric composed of yarn consisting of an elastomer or a covered elastomer." This definition leaves such items as crimped nylon out of the elastic category.

Backing, Filling, and Padding

Since backing, filling, and padding of floor coverings are exempted, the fiber disclosure must indicate to what it refers with such words as "pile," "face," or "outer surface."

Remnants, when offered for sale, may be designated as "remnants of undetermined fiber content." If the fiber content is known, it must be stated. One labeling for bales, bundles, or packages is sufficient.

A product made from scraps, rags, odd-lots, by-products, wastes, etc. shall be designated as "made of miscellaneous scraps (or other class) of undetermined fiber content." However, a full disclosure is necessary if fiber content is known or practically ascertainable.

"Virgin" or "new" may be used only if the fiber has never been reclaimed "from any spun, woven, knitted, bonded, or similarly manufactured product."

The Label

The label shall have the required information on one side except that the name or number may appear on the reverse side if it is accessible. Also, where both sides are readily accessible, the required fiber data may appear on the reverse side if the front side conspicuously shows the wording "Fiber Content on Reverse Side."

No nonrequired information shall in any way minimize, detract from, or conflict with the required information or be in any way false or deceptive as to fiber content.

CONTINUED ON PAGE 155

What You Should Know About Fluorescent Lamps

Fluorescent lamps with 25% upward-component light are becoming the standard for industry.

The rated average life of most modern fluorescent lamps is 7,500 hrs. based on an operating cycle of three burning hours per start. Approximate multiplying factors are: 1.6 for 12 hrs. per start, and 2.5 for continuous operation.

When the effect of frequent lamp starting is compared with the cost of keeping lamps burning constantly, it is usually more economical to turn lamps off for rest periods longer than 15 to 20 mins.

The light output of fluorescent lamps decreases rapidly during the first 100 hrs. of operation; after this period, the rate of light depreciation becomes much slower. For this reason, rated light output is based on 100-hr. values rather than on initial values.

Extreme Heat or Cold Hurts Lamps

Light output of fluorescent lamps is greatly reduced by extremes of heat or cold. The newer high-output lamps are particularly recommended for low ambient temperatures because they deliver a higher percentage of rated light output under these conditions.

To prevent damage to the internal ballast components, the temperature of the ballast case should not exceed 90° C.

Fluorescent lamps are rated in wattage only, but the accompanying ballast is rated for lamp wattage and line voltage. For most satisfactory operation, lamp ballasts of the proper rating must be used for the available line voltage.

Higher-than-normal line voltage increases the light output but decreases over-all efficiency and shortens lamp and ballast life. Lower-than-normal line voltage decreases the light output, slightly decreases over-all efficiency, and may result in unsatisfactory starting, which shortens lamp life.

Low Power Factor Is Damaging

Although the power factor of the ballast does not affect lamp performance, it materially affects the current flow for the same-size lamp. For example, a 40-w. lamp with low-power-factor ballast draws a current of 0.67 amps.; but the same lamp with a high-power-factor ballast draws only 0.45 amps.

Therefore low-power-factor ballasts require switches of larger current-carrying capacity and heavier feeders than the same lamp wattage using ballasts of high power factor.

According to the 1956 National Electrical Code, a.c. switches may be used up to 100% of their rated capacity on fluorescent loads but a.c.-d.c. general-use snap switches must be derated 50% for fluorescent loads.

A. C. Operation Is Better Than D. C.

All lamps, even fluorescent lamps, flicker to some extent on a.c. However, except for unusual conditions, there are no problems with properly designed and installed fluorescent equipment. Where flicker must be reduced to a minimum, warm-color fluorescent lamps and/or a three-phase distribution system should be considered.

Although fluorescent lamps are designed for a.c. operation, they may be used on d.c. circuits of high voltage if the proper series resistance is used in connection with a suitable ballast and starter. The series resistance uses about as much wattage as the lamp, and therefore the over-all efficiency of light production will be much less than for normal a.c. operation. *General Electric Co.* 1959 *Plant-Engineering Round Table, Greenville,*

LABELING-ACT RULES

CONTINUED FROM PAGE 154

Samples, swatches, or specimens, if less than 2 sq. ins. in size, may have their fiber data on accompanying promotional material, or in a catalog, or on the invoice if they are not sold to the ultimate consumer.

Linings and fillings intended for warmth shall be designated separately on the garment label. Superimposed or added fibers may be disclosed by percentage and location.

Pile fabrics may be disclosed in

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For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

their two areas, as "pile" and "back"; and they must also show the percentage of each as "back constitutes 60% of fabric and pile 40%."

For use on a textile fabric entirely of one fiber (other than allowed ornamentation, elastic, or trim), either "100%" or the word "all" may be used.

Packaged products may have the data on the package if they are sold in the package; but if the package is broken up, each item must be labeled.

On items customarily sold in pairs or ensembles, only one unit need be labeled and the items need not be attached to each other.

An imported textile product shall be labeled with the name of the country where it was made, in addition to the prescribed fiber disclosure. A fabric imported in the gray but dyed and finished in the U. S. must still bear the name of the country of origin.

However, if the item is changed by manufacture in the U. S. (as a shirt made of imported fabric), it is not necessary to disclose the country of fabric origin.

Goods Acquired Before Mar. 3

The Act provides exemption for textile-fiber products acquired prior to the Mar. 3, 1960, date. FTC, however, applies this exemption only to material handled or marketed in the same basic form as acquired. Proof is up to the marketer. If the form of the product is changed after that date, the Act and Rules apply. Processing or finishing after that date does not void the right to exception.

ASTM Tests To Be Used

Although not stated in the Rules, FTC has pronounced officially that quantitative fiber-content analyses would, where possible, be made on procedures outlined by the American Society for Testing Materials in its "Standards on Textile Materials." Tests will be made on an oven-dry basis with the standard regains added in determining fiber content.

Legal procedures against violators and punishments are similar to other FTC cases.

The Rules and Regulations in final form are printed with the text of the Act in a 32-page booklet identified as "Rules and Regulations Under the Textile Fiber Products Identification Act" available from the Federal Trade Commission, Washington, D. C.

GRANULAR CARD

CONTINUED FROM PAGE 46

ing the top section of the main cylinder causes an increase in air pressure at the lickerin that has an undesirable effect on the function of the mote knives.

The low-pressure lickerin cover reduces this pressure by allowing air to escape through the incoming lap. The cover extends over the feed roll, which makes it unnecessary to use a scavenger roll.

With a low-pressure cover and perforated screen, it has been found that the best location for the mote knives is 1 in. from the feed plate with a 14° angle. Retaining the 14° angle and decreasing the clearance to ½ in. results in a 7% saving in fiber and a 7% decrease in cleaning.

[*A progress report on flatless carding was published in* TEXTILE WORLD, *April* '58, *p.* 55; *and the machine discussed here was described in May,* '59, *p.* 148. *Initial licensees are Benjamin Booth Co., Philadelphia, Pa., and Carolina Machinery Co., Charlotte, N. C., who jointly plan to manufacture and sell a granular top for cotton cards called Gran-O-Top.*—Editor]

MASSIVE COTTON BLENDING

CONTINUED FROM PAGE 47

our opening-room hoppers and in 13% fewer reject laps. We have not been able to measure the very-short-term variation in our laps that could be affected by tuft size. Yard-to-yard variation probably is less dependent upon tuft size, and we have experienced a slight improvement there of about 4%. Nep count went down 12%.

Fluorescent streaks in cones of yarn used to plague us in spite of what appeared to be sufficient doubling. Larger opening-room blends helped, but we really didn't eliminate these streaks until we went all the way with preblending.

Ends Down Drop 20%

Our spinning has been running better, and it has been much more stable. A limited test showed a 20% reduction in ends down per thousand spindle hours on 60s. The absolute values before and after preblending were 55.555 and 45.963 ends down per thousand spindle hours.

Yarn strength has not been affected significantly, but there has been less fluctuation from week to week. An analysis of yarn strength before and after preblending showed a 9.4% reduction in CV of breaking strength, but we suspect that there may have been a greater reduction than that on the whole.

In assessing these results, we tried to count the cost and reckon the net effect. Since we lacked floor space for this operation and were in serious need of more bale storage anyway, we felt our out-of-pocket cost should be for the equipment itself.

This cost was $30,000. Basic operating cost is 0.165c per lb. of cotton processed, plus any overhead allocation you might use in your own mill. This 0.165c might be called an incremental cost inasmuch as we added nothing but direct labor.

Offsetting this figure is the direct saving in spinning of 20% fewer ends down. Other savings, which cannot be measured as accurately but which probably are more significant, include better cleaning, reduction or elimination of redyes, fewer rejects, virtual elimination of color problems, and the untold advantages of buying and storing cotton within the same crop year.

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 127

High-Speed Winders

Dual-shaft winders that can be used either for unwinding or winding sheet materials have been marketed by Stanford Engineering Co., Salem, Ill.

The Model TO-24 unwinding unit carries two rolls of stock; and as one runs out, the second is moved into position and spliced on instantaneously without slowing the process.

The Model TO-24R is built to wind web materials and carries a cut-off knife and splicing attachment that permits continuous operation of the web-delivering machine. **Circle T-55 on Reader-Service Card**

Transformer

A polyester-elastomer molded indoor current transformer, Type ECT-2.5, has been introduced by Westinghouse Electric Corp., P. O. Box 2278, Pittsburgh 30, Pa. The unit is for

either switchboard or switchgear applications in ratings from 10 through 1,200 amps.

In replacing the company's tape-insulated transformers in the 2,500-v. class, the molded unit has increased mechanical and thermal ratings and can be used under oil.

The continuous-current rating factor has been increased so that it carries one and one-half times rated current without overheating. **Circle T-56 on Reader-Service Card**

Static-Protective Relays

A line of transistorized protective relays for switchgears without moving parts has been developed by Allis-Chalmers Mfg. Co., 1056 S. 70th St., Milwaukee 1, Wis. The units use low input power and function as amplifiers.

All relay components are mounted on a printed circuit board, which is shockproof and highly resistant to moisture and handling and helps minimize the effects of temperature variation.

Relay panel space has been reduced to one-third the area formerly needed. Variations in relay settings are made by adjustment of selective controls accessible from the front of the relay. **Circle T-54 on Reader-Service Card**

Erect-Image Microscope

An industrial microscope that provides various degrees of magnification from 5x to 40x is available from Edmund Scientific Co., Barrington, N. J. Circle T-59 on Reader-Service Card

Bench-Model Slitter

Small rolls of coated fabrics, films, or paper products can be slit into narrow widths by a bench-model slitter offered by Appleton Machine Co., Doven Div., Appleton, Wis. Circle T-60 on Reader-Service Card

Spectrofluorometer

Samples can be irradiated in any chosen wavelength of the ultraviolet, visible, or infrared regions by means of a spectrofluorometer equipped with a Xenon-arc light source made by Farrand Optical Co., Inc., Bronx Blvd. and E. 238th St., New York 70, N. Y. Circle T-61 on Reader-Service Card

Pressure Controller

A pressure-operated switch that will control liquid or gas pressures up to 3,000 psi, has been announced by Minneapolis-Honeywell Regulator Co., Industrial Div., Philadelphia 44, Pa. Circle T-62 on Reader-Service Card

Spectrograph

Rapid qualitative and quantitative analysis of a variety of materials and compounds is possible with a 100-kv. spectrograph introduced by Philips Electronics, Inc., 750 S. Fulton Ave., Mount Vernon, N. Y. Circle T-63 on Reader-Service Card

Glass-Tile Wall

A prefabricated glass tile wall that incorporates all of the structural members and basic sun-controlling features to enclose a building is available from Kimble Glass Co., subsidiary of Owens-Illinois, Toledo, Ohio. Circle T-64 on Reader-Service Card

Retaining Strip

Two types of retaining strips, one in 100-lb. kraft-paper and the other in asphalt glass-fiber laminated paper, for products that are difficult to retain are being offered by Signode Steel Strapping Co., 2600 North Western Ave., Chicago 14, Ill. Circle T-65 on Reader-Service Card

Thread Compound

An antiseize thread compound that retains its homogenized consistency indefinitely, is nonsettling, nonskinning, and does not harden in the can, is available from Crane Co., 836 S. Michigan Ave., Chicago 5, Ill. Circle T-66 on Reader-Service Card

Carton Stapler

A manually operated carton stapler that will set up empty cartons or close filled cartons with king-size staples is offered as Model SHD by Container Stapling Corp., 308 N. Park Ave., Herrin, Ill. Circle T-67 on Reader-Service Card

Power-Driven Mortar

An electrically driven mortar-and-pestle unit is available from Torsion Balance Co., Clifton, N. J. Circle T-68 on Reader-Service Card

THE RIGHT ANSWERS IN 3 SECONDS!

MOISTURE REGISTER'S MODEL 5 checks moisture accurately in almost every known textile. Any untrained operator can use it effectively – in any stage of production – on cones, beams, skeins; loose or compressed yarns and fibers; Wool, Cotton, Nylon, Rayon, Dacron, Orlon, etc.

It can be calibrated on the spot by plugging the test electrode into the self-checking standard . . . then trimming to zero if necessary. It's always right on the money.

Model 5 features:

- **Trims to Zero on the spot.**
- **Portable, rugged, simple to use.**
- **Gives right answers, anywhere.**
- **Factory-set to your needs.**
- **All common textiles.**
- **2-week free trial.**

SEND FOR NEW TECHNICAL DATA and information on 2-week free trial.

ELECTRONIC MOISTURE REGISTER Instruments

Moisture Register Company, Dept. TW
P. O. Box 910, Alhambra, California
Please send data on new Model 5's.

We are testing _____

in moisture range from ____% to ____%

Firm _____

By _____ Title _____

Address _____

City _____ State _____

NEWS ABOUT SUPPLIERS

JAMES HUNTER, INC., division of James Hunter Machine Co., North Adams, Mass., has moved from Greenville, S. C., to this new plant in Mauldin, S. C. Automatic blending equipment for cotton, man-made, and wool fibers, as well as card and garnett feeds will be manufactured in the new plant.

WARNER & SWASEY, Cleveland, Ohio, is planning to build this 40,000-sq.-ft. research center in Solon, Ohio. It will house offices, research laboratories, a library, design and experimental areas, a prototype shop, and a high-bay general test section. These facilities will centralize all research and development activities and personnel.

ALLIED CHEMICAL CORP., New York, N. Y.—Has appointed Paul F. Fitzgerald to the fiber technical-service department. Mr. Fitzgerald will serve as a fiber-processing technologist at the company's Hopewell, Va., plant. . . . **AMERICAN ENKA CORP.,** New York, N. Y.—Has named James K. Payton sales representative in the Providence, R. I., sales office. . . . **AMERICAN VISCOSE CORP., FIBERS DIV.,** Philadelphia, Pa.—Has named Joseph H. Anderer assistant manager of the Applications Research and Development Section. . . . **APPLETON MACHINE CO.,** Appleton, Wis.—Has appointed Marshall & Williams Equipment Co., Greenville, S. C., Southeastern sales representative.

ARMSTRONG CORK CO., INDUSTRIAL DIV., Lancaster, Pa.—Has transferred Thomas B. Porter, salesman in the New York district office, to the Greenville, S. C., office as a resident salesman. . . . **CELANESE CORP. OF AMERICA,** New York, N. Y.—Has appointed Colin E. Campbell assistant export manager of the Foreign Sales Div. . . . **CENTURY ELECTRIC CO.,** St. Louis, Mo.—Has named William Eric Mier export manager succeeding Charles White. . . . **CHEMSTRAND CORP.,** Decatur, Ala.—Is planning to build a $14-million nylon-yarn plant northeast of Greenwood, S. C. In its first stage the plant expects to produce 10-million lbs. of yarn a year, and employ about 500 people. . . . **CIBA CO., INC.,** New York, N. Y.—Is moving to new headquarters in Fair Lawn, N. J. Included in the move will be all elements of the central staff, customer-service laboratories, central warehouse facilities, and the metropolitan-district sales office and laboratories.

COLTON CHEMICAL CO., Cleveland, Ohio—Has appointed Richard Magemeier sales representative for resins in the Chicago, Ill., branch office. . . . **DEWEY & ALMY CHEMICAL DIV., W. R. GRACE & CO.,** Cambridge, Mass.—Has named John G. Broughton, Jr., to the newly created position of field-sales manager of the Organic Chemicals Div. . . . **DIAMOND ALKALI CO.,** Cleveland, Ohio—Has promoted George W. Hottell to staff assistant in the company's general sales and market-planning department in Cleveland. Jack G. Redmond succeeds Mr. Hottell as field salesman in the New York City branch office. . . . **DIXON CORP.,** Bristol, R. I.—Has named John M. Feeley, formerly sales manager, vice president in charge of sales. Sales offices in the South selling to the textile industry will be among his responsibilities.

DOW CHEMICAL CO., Midland, Mich.—Has announced that it will undertake a $12-million expansion program at its Louisiana Div. The program includes a polyethylene plant and facilities to produce vinylidene chloride and chlorothene. . . . **DRAPER CORP.,** Hopedale, Mass.—Has appointed James H. Richardson to the board of directors. He has also been elected treasurer. . . . **E. I. DU PONT DE NEMOURS & CO., INC.,** Wilmington, Del.—Has named Kirk P. Ferguson manager of the New York district office of the Dyes & Chemicals Div., succeeding Sidney M. Conn, who has retired. . . . **EASTMAN CHEMICAL PRODUCTS, INC.,** Kingsport, Tenn.—Has changed the name of the Textile Div. to the Fibers Div.

GATES RUBBER CO., Denver, Colo.—Will build two $350,000 warehouses in Kansas City, Kan., and Portland, Ore. . . . **GENERAL ANILINE & FILM CORP., DYESTUFFS & CHEMICAL DIV.,** New York, N. Y.—Has appointed J. Robert Bonnar director of marketing. The Antara Chemicals Div. has appointed Texas Solvents & Chemicals Co. as distributor of Igepal CO- and CA- surfactants and Cheelox sequestering agents. . . . **GENERAL CONTROLS CO.,** Glendale, Calif.—Has named William R. Kennedy sales manager of its Hammel-Dahl Div., Warwick, R. I. . . . **GENERAL ELECTRIC CO.,** Waterford, N. Y.—Has appointed Donald V. Brown manager of sales development for the Silicone Products Dept. . . . **HOOKER CHEMICAL CORP.,** Niagara Falls, N. Y.—Has opened its research center at Grand Island, N. Y.

JOHNSON MOTOR LINES, INC., Charlotte, N. C.—Has appointed L. M. Calhoun district sales manager for the Greenville, S. C., area. He will also represent Atlantic States Motor Lines, Inc., in that area. Jimmie O. Newton has been named district sales manager of the Charlotte, N. C., area for Johnson Motor Lines and Atlantic Motor Lines. . . . **KOPPERS CO., INC.,** Pittsburgh, Pa.—Has bought the Halowax plant of Union Carbide Corp., Wyandotte, Mich. . . . **METRO-ATLANTIC, INC.,** Centredale, R. I.—Has named M. M. McCann to the Greenville, S. C., sales office.

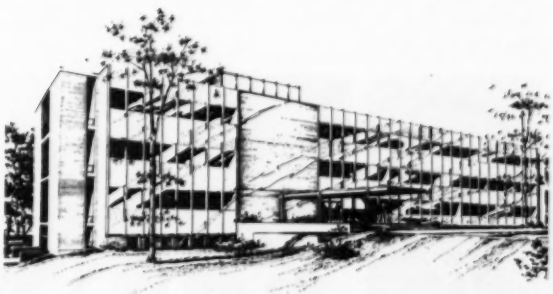
MINNESOTA MINING & MFG. CO., CHEMICAL DIV., St. Paul, Minn.—Has named John C. Holmes sales representative to the textile and leather industries on the West Coast. His headquarters will be in the Los Angeles, Calif., branch office. . . . **MONSANTO CHEMICAL CO.,** St. Louis, Mo.—Has announced that its subsidiary, Monsanto Mexicana, S. A., has completed installation of facilities to produce sodium tripolyphosphate and phosphoric acid at Lecheria, Mexico. S. R. Clement has been appointed to the newly created position of director of sales in charge of customer relations for the Inorganic Chemicals Div. at St. Louis.

HANS FIEDLER (left) has been elected vice president in charge of sales of Textile Machine Works, Reading, Pa. S. J. WEINBERG (right) has been named vice president in charge of Fiberglas textile fabrics for Owens-Corning Fiberglas Corp., Toledo, Ohio.

MOUNT HOPE MACHINERY CO., Taunton, Mass.—Has appointed H. J. Anderson & Co., Toronto, Ont., exclusive Canadian representative for the textile and plastic industries. . . . **SKF INDUSTRIES, INC.,** Philadelphia, Pa.—Has started a $4½-million expansion program at the Altoona, Pa., plant. It is scheduled for completion by the end of this year. . . . **SACO-LOWELL SHOPS,** Boston, Mass.—Has announced that Royden Walters has been named executive vice president and assistant general manager of the Easley and Sanford, S. C., operations in addition to his duties as executive assistant to the president.

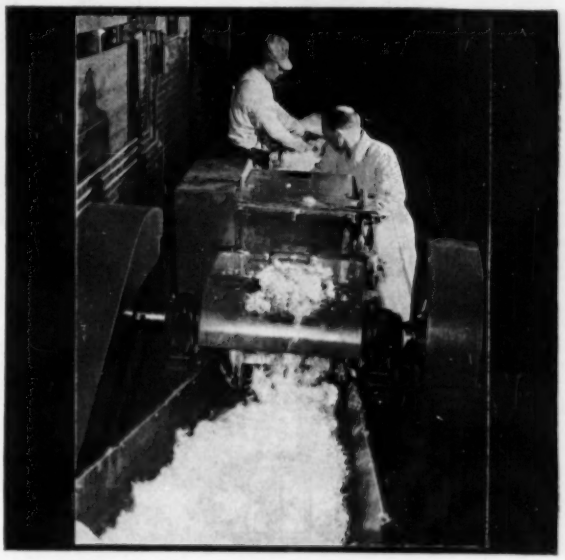
STANDARD SCREW CO., HARTFORD-GREENVILLE DIV., Greenville, S. C.—Has appointed Dunson & New, Inc., Greensboro, N. C., exclusive sales agents. . . . **SUPERIOR BANDS,** Athens, Ga.,—Has moved to Anderson, S. C. . . . **TEXTILE MACHINE WORKS,** Reading, Pa.—Is transferring its Arrow Needle Co. operation from Manchester, N. H., to its Reading plant. The unit will be integrated with the Wire Products Div. . . . **TORRINGTON CO.,** Torrington, Conn.—Has opened a district office in Atlanta, Ga.

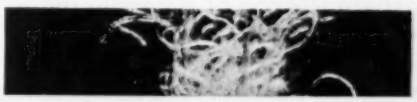
UNION CARBIDE CORP., New York, N. Y.—Has elected William M. Haile vice president. He will supervise the activities of Linde Co., National Carbon Co., and Union Carbide Metals Co. . . . **WERNER TEXTILE CONSULTANTS,** New York, N. Y.—Has named George B. Monk a consultant in fiber marketing in both textile and industrial areas. . . . **YALE & TOWNE MFG. CO., YALE MATERIALS HANDLING DIV.,** Philadelphia, Pa.—Has named Donald L. Frazer factory representative for all of Latin America.

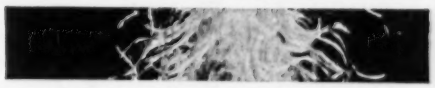


AMERICAN ENKA CORP. is building this three-story corporate office building in Enka, N. C. It will house the company's administrative offices now located in New York City, as well as some corporate offices presently located at the Enka plant. It is scheduled for occupancy in the early part of 1960.

CUT NYLON WASTE
Without Fusing







Cut 3000 or more pounds of nylon waste an hour, on our No. 415 thread waste cutter, without fusing in any length sections from 2″, 3″ or 4″ up to 24″.

Cut other natural and synthetic yarn waste with Taylor-Stiles thread waste cutters.

We also manufacture tow and staple cutters.

Write for bulletin with description of Taylor-Stiles cutters for your particular needs.

TAYLOR-STILES & CO.

15 BRIDGE STREET — RIEGELSVILLE, NEW JERSEY

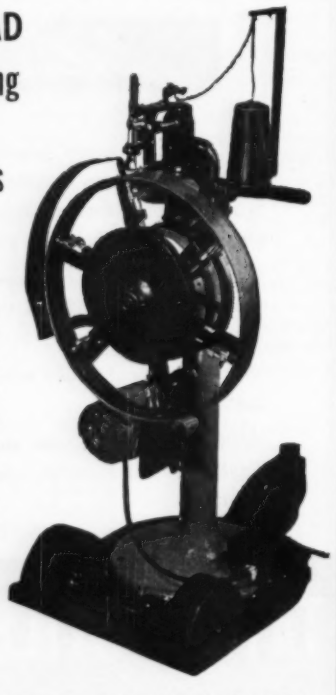
CIRCLE 159 ON READER SERVICE CARD

DOUBLE RUB, FOUR BANK TAPE CONDENSER

Built in 48", 60", 72" widths for adaptation to all carding machines. Write for information.

Duesberg-Bosson of America, Inc.
Main Street Jefferson, Mass. P.O. Box 25
CIRCLE 45 ON READER SERVICE CARD

MODEL 31 AD
Piece-end Sewing with SAFE Retractable Pins



20" dia. cloth wheel with 6 pairs of pins retracted by cam for automatic cloth stripping. Retracted pins are safe. Heavy duty gear type sewing head. Single chain stitch. Wide range of stitch adjustments. Motor drive.

DINSMORE MANUFACTURING CO.
Box 267 Salem, Mass.

NEWS ABOUT MEN

Floyd V. Aiken, Jr., has been named general overseer of weaving at Union Mill, Union, S. C.

J. T. Allmon has been promoted to the position of supervisor, management development, Glove Div., Riegel Textile Corp., Conover, N. C.

Albert Armitage has been elected chairman of the board of Bates Mfg. Co., Lewiston, Me., succeeding the late Lester Martin.

Arthur Aylward has joined Glen Raven Mills, New York, N. Y., as administrative assistant to James P. Kinard, vice president and director of sales.

H. H. Bland has been named a director of Belding-Corticelli Ltd., Montreal, Que., succeeding W. P. MacDougall.

Ralph Bullock has been elected a vice president of Drycor Felt Co., Staffordville, Conn.

Judd C. Brooker, Brooker Spread Co., Dalton, Ga., has been elected president of the Tufted Textile Manufacturers Association.

Bryon Calhoun has been named assistant secretary of Cone Mills Corp., Greensboro, N. C.

William Cameron has been named assistant planning supervisor for the gray mill of Abbeville Mills Corp., Abbeville, S. C.

George R. Caron has been elected treasurer of Continental Mills, Lewiston, Me., succeeding Guy H. Critcherson, who has retired.

C. CHESTER BASSETT, JR., has been elected a corporate vice president of Bigelow-Sanford Carpet Co., Inc., New York, N. Y.

H. P. Claussen has been named to the newly created position of vice president in charge of procurement and materials for Bemis Bro. Bag Co., St. Louis, Mo.

Alan Cone has been named assistant treasurer of Cone Mills Corp., Greensboro, N. C.

Robert F. Cooper, president of Cooper's, Inc., Kenosha, Wisc., has been elected to the newly created post of first vice president of the Underwear Institute.

Jack Coursey has joined Excelsior Mills, Worsted Div., Pendleton, S. C.

Patrick A. DeBaise has been elected a corporate vice president in charge of marketing for Bigelow-Sanford Carpet Co., Inc., New York, N. Y.

Henry J. Dekker has been appointed plant manager of Gerrish Milliken Mill, Pendleton, S. C.

JACOB A. GOLDFARB (left) has been re-elected chairman of the board and chief executive officer of Union Underwear Co., Inc., New York, N. Y., EVERETT J. MOORE (center) has been elected president, and TED LAZAR (right) has been named executive vice president.

George H. Dobbie, president of Newlands & Co. Ltd., Galt, Ont., has been elected chairman of the Primary Textiles Institute.

John Evans has retired as a supervisor for American Thread Co., Willimantic, Conn.

Shirley D. Gardiner, secretary and treasurer of Fruit of the Loom, New York, N. Y., has been named to the company's board, succeeding the late Arthur D. Pinkham.

Nelson Getschell has been appointed manager of the technical section of the utilization research division, National Cotton Council.

Paul W. Greeley has been named superintendent of the production-planning section of the Celriver Plant of Celanese Corp. of America, Rock Hill, S. C.

Sam J. Guilford has been named assistant production-planning manager for Abbeville Mills Corp., Abbeville, S. C.

Walter Hildebrandt, vice president in charge of sales and merchandising for B. I. Cotton Mills, Greenville, S. C., has also been placed in charge of manufacturing for the company's plants in Sherman and Post, Tex.

Don S. Holt has been promoted to executive vice president of Cannon Mills Co., Kannapolis, N. C.

W. Gaines Huguley has been named a vice president in charge of plants in the Carolinas for B. I. Cotton Mills, Greenville, S. C.

Carleton King has retired as supervisor at American Thread Co., Willimantic, Conn.

Marion Kirby has been named superintendent of manufacturing at Catlin-Farish Co., Burlington Industries, Inc., Batesburg and Lexington, S. C.

Fred J. Lighte has been elected a vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

James L. McCormick has been named president of Holt Hosiery Mills, Inc., Burlington, N. C.

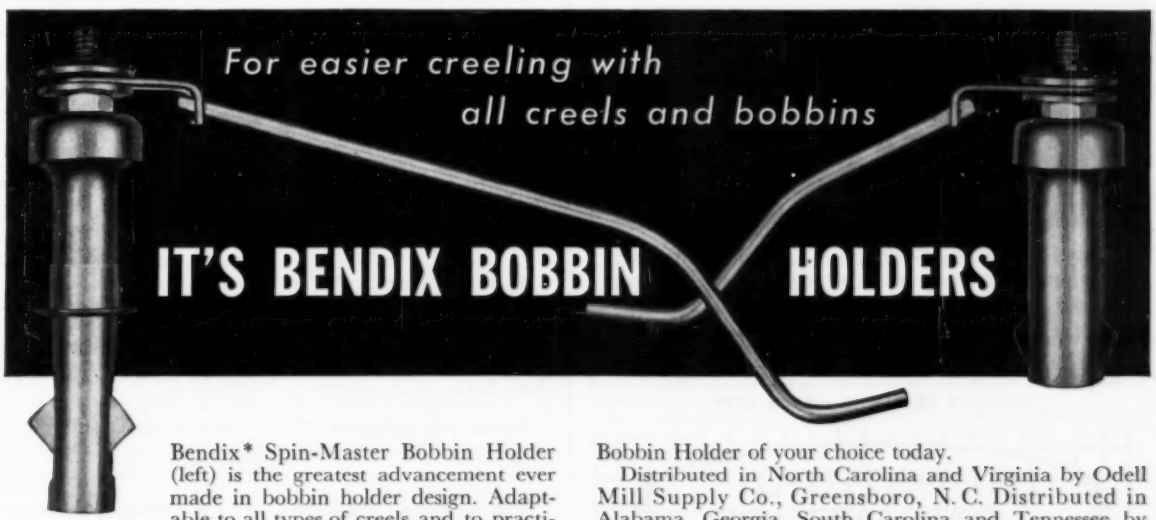
John J. McMahon has resigned as vice president of Berkshire Hathaway, Inc., Providence, R. I.

Robert R. Mitchell has been promoted to secretary of Berkshire Knitting Mills, Reading, Pa.

Allen J. Nelson has joined St. Marys Woolen Mfg. Co., St. Marys, Ohio, as assistant manager and wool buyer.

Robert C. Reinhardt, Jr., has been named vice president in charge of manufacturing for Catlin-Farish Co., Burlington Industries, Inc., Batesburg, S. C.

JAMES S. LOVE, JR., (left) has been named president of Sidney Blumenthal & Co., a division of Burlington Industries. MAX HESSE (right) succeeds Mr. Love as president of Burlington Ribbon Mills. Mr. Hesse formerly had been a vice president of Burlington Ribbon Mills.



Bendix* Spin-Master Bobbin Holder (left) is the greatest advancement ever made in bobbin holder design. Adaptable to all types of creels and to practically all sizes of bobbins, the Spin-Master permits easy, one-hand creeling and has an exclusive nylon latch that eliminates bobbin wear. Easier creeling is also available with the spring type Eclipse Bobbin Holder (right), longtime favorite of the textile industry. Order the Bendix Bobbin Holder of your choice today.

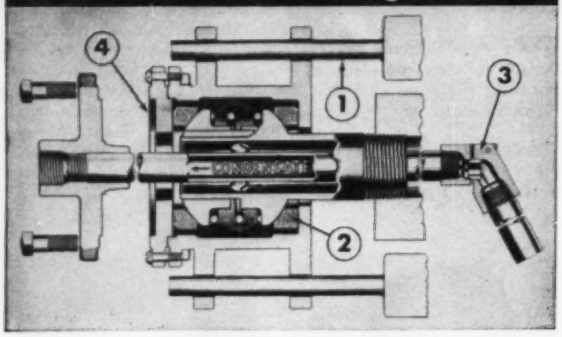
Distributed in North Carolina and Virginia by Odell Mill Supply Co., Greensboro, N. C. Distributed in Alabama, Georgia, South Carolina and Tennessee by Greenville Textile Supply Co., Greenville, S. C. Export Sales: Bendix International, 205 East 42nd Street, New York 17, N. Y. ALSO FURNISHED AS ORIGINAL EQUIPMENT BY LEADING TEXTILE MACHINE MANUFACTURERS.

*REG. U. S. PAT. OFF.

ALL OTHER INQUIRIES TO:
Bendix-Elmira
Eclipse Machine Division, Elmira, New York

Bendix AVIATION CORPORATION

For service on Dry Cans and 30" Slasher Cylinders



Type LJSP with Syphon Elbow

Johnson ROTARY PRESSURE **Joints** *First* in the Textile Industry

1. Support rods carry all the real weight. Sealing assembly "floats" freely inside. **2.** Seals without packing—needs no lubrication or adjusting. **3.** Syphon elbow replaces clumsy curved syphon pipe with two straight pipes, passes right through joint. **4.** Assembly plate holds parts in place when head is removed.

Write for Catalog J-2002

Shows Johnson Joints for all needs, on dry cans, print cans, calenders, compressive shrinkage ranges, 5' and 7' cotton slashers, etc.

THE JOHNSON CORPORATION
814 Wood St., Three Rivers, Mich.

CIRCLE 46 ON READER SERVICE CARD

CREELS FOR EVERY PURPOSE

EDWARD J. McBRIDE COMPANY

WARPING—WEAVING—WINDING—KNITTING—TUFTING
STOP MOTIONS—TENSION CONTROLS—CONE HOLDERS
Complete engineering service a part of every McBride installation.

EDWARD J. McBRIDE CO., INC.
COTTMAN AVE. & WISSINOMING ST. • PHILA. 35, PA.

CIRCLE 47 ON READER SERVICE CARD

INDUSTRIAL ENGINEERS

• MODERNIZATION PROGRAMS • PLANT LAYOUTS
• MANAGEMENT PROBLEMS • WORK LOAD STUDIES
• COST REDUCTION REPORTS
• COST SYSTEMS • SPECIAL REPORTS

RALPH E. LOPER CO.
GREENVILLE, S. C., Dial CEdar 2-3868 • FALL RIVER, MASS., Dial OSborne 6-8261
Specializing in Textiles Since 1914

NEWS ABOUT MEN — Continued

Leslie E. Reynolds has been promoted to plant engineer of Judson Mills, Greenville, S. C.

Raymond R. Rice, Virginia Maid Hosiery Mills, Pulaski, Va., has been named chairman of the board of the National Association of Hosiery Manufacturers.

Duncan M. Stewart has joined Excelsior Mills, Pendleton, S. C., and will work with fabrications and finishes.

John C. Tate, Jr., has been transferred to Greenville, S. C., as executive assistant to C. A. Gibson, president of B. I. Cotton Mills. He had been on the staff of James King, vice president of Burlington Industries, Greensboro.

M. M. Taylor has been named plant manager of Poe Mfg. Co., Greenville, S. C.

William E. Thraikill has been named plant manager of Judson Mills, Greenville, S. C.

Allen H. Watkins has been elected president of Triangle Hosiery Co., High Point, N. C.

Arthur E. Weiner has been named assistant vice president of Burlington Industries, Inc., Greensboro, N. C.

Textile World

OBITUARY

Ashley Lee Baker, president and purchasing agent of Virginia Mills, Inc., Swepsonville, N. C.

Henry C. Ball, 61, executive vice president of the Tufted Textile Manufacturers Association.

Hugh Y. Ballard, 62, overseer at Howell Mfg. Co., Cherryville, N. C.

Russell L. Brinton, 74, retired president and director of H. Brinton Co., Philadelphia, Pa.

Walter Caldwell, 87, retired overseer, Woodruff, S. C.

Clyde Childs, overseer at Renfrew Bleachery, Travelers Rest, S. C.

Claude Lee Cleveland, 77, retired overseer, Greenville, S. C.

Francis Scribner Cobb, 86, one of the founders of the Thread Institute of America, Dedham, Mass.

Eben S. Draper, 66, a retired director of Draper Corp., Hopedale, Mass.

Ralph C. Harvey, 59, founder and president of R. C. Harvey Wool Co., Waltham, Mass.

Gilbert Brown Heath, 73, former president of Manetta Mills, Lando, S. C.

Harry S. Jaffee, 59, former president of Jaffee Cotton Products Mfg. Co., Dallas, Tex.

Robert A. Jackson, 33, personnel-planning and development manager, Bigelow-Sanford Carpet Co., Thompsonville, Conn.

Robert Nigrin, 53, sales manager of Alfred Suter Co., New York, N. Y.

Frank M. Oxner, 61, retired spinning-room overseer at Alma Mill, Gaffney, S. C.

James Blaine Shelton, 67, former superintendent, Greenville, S. C.

John A. Simmons, 47, overseer at Riegel Textile Corp., Ware Shoals, S. C.

E. N. Sitton, 67, former head of Pendleton Mfg. Co., now La France Industries, New York, N. Y.

George Thomson, 60, associate director of Fabric Research Laboratories, Inc., Dedham, Mass.

Walter M. Williams, 68, retired executive vice president and chairman of the board of Virginia Mills, Inc., Swepsonville, N. C.

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P-1959, Textile World
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Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

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P-1302, Textile World
Class. Adv. Div., P.O. Box 12, N. Y. 36, N. Y.

ASSISTANT OVERSEER
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Well established textile mill, Middle Atlantic States, wants man, not over forty years old, with technical and practical cotton carding experience for coarse work. Opportunity for advancement. Please submit previous experience and salary expected. Write

P-1957, Textile World, Classified Ad Division,
P. O. Box 12, New York 36, N. Y.

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NEW YORK 36: P. O. BOX 12
CHICAGO 11: 520 N. Michigan Ave.
SAN FRANCISCO 4: 68 Post St.

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Wanted: Man to be foreman thoroughly experienced in all phases of manufacturing all metal reeds. Permanent position with future. Reply to P-1741, Textile World.

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P-1833, Textile World
Class. Adv. Div. P.O. Box 12, N. Y. 36, N. Y.

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W-1955, Textile World
Class. Adv. Div., P. O. Box 12,
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27—C. & K. W3 Looms", 18" shuttle 1948

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1—K. & G. Silk Calendar 60", 3 rolls

1—Hunter 9 bowl Washer 90", 1951

16—S.L. 5 roll Controlled Drawing, 1947

36—S.L. Z2 Spin. Frames, 4" ga. 9¼" paper tube, 252 spdls. 1948

1—B.C. Warper 54¼", 540 cheese creel

160—B.C. Warp Beams 54¼ x 30"

1—Cocker 9 can Slasher, 1947

4—Hermas Inspection Machine 70"

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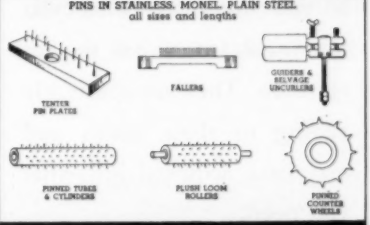

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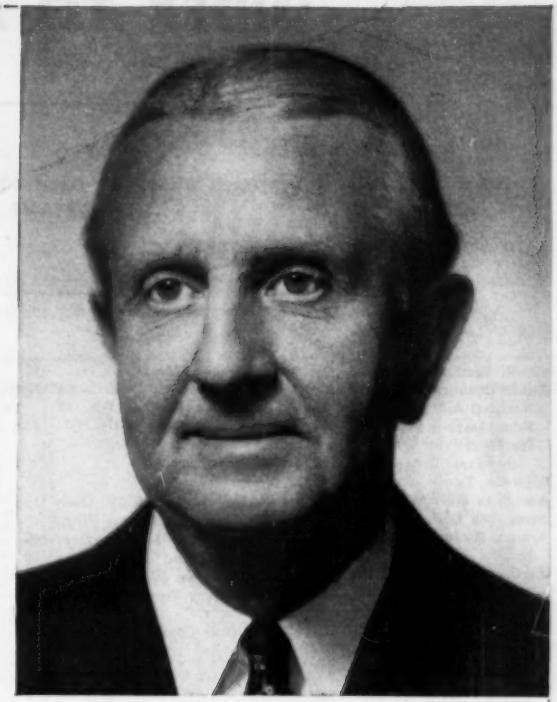

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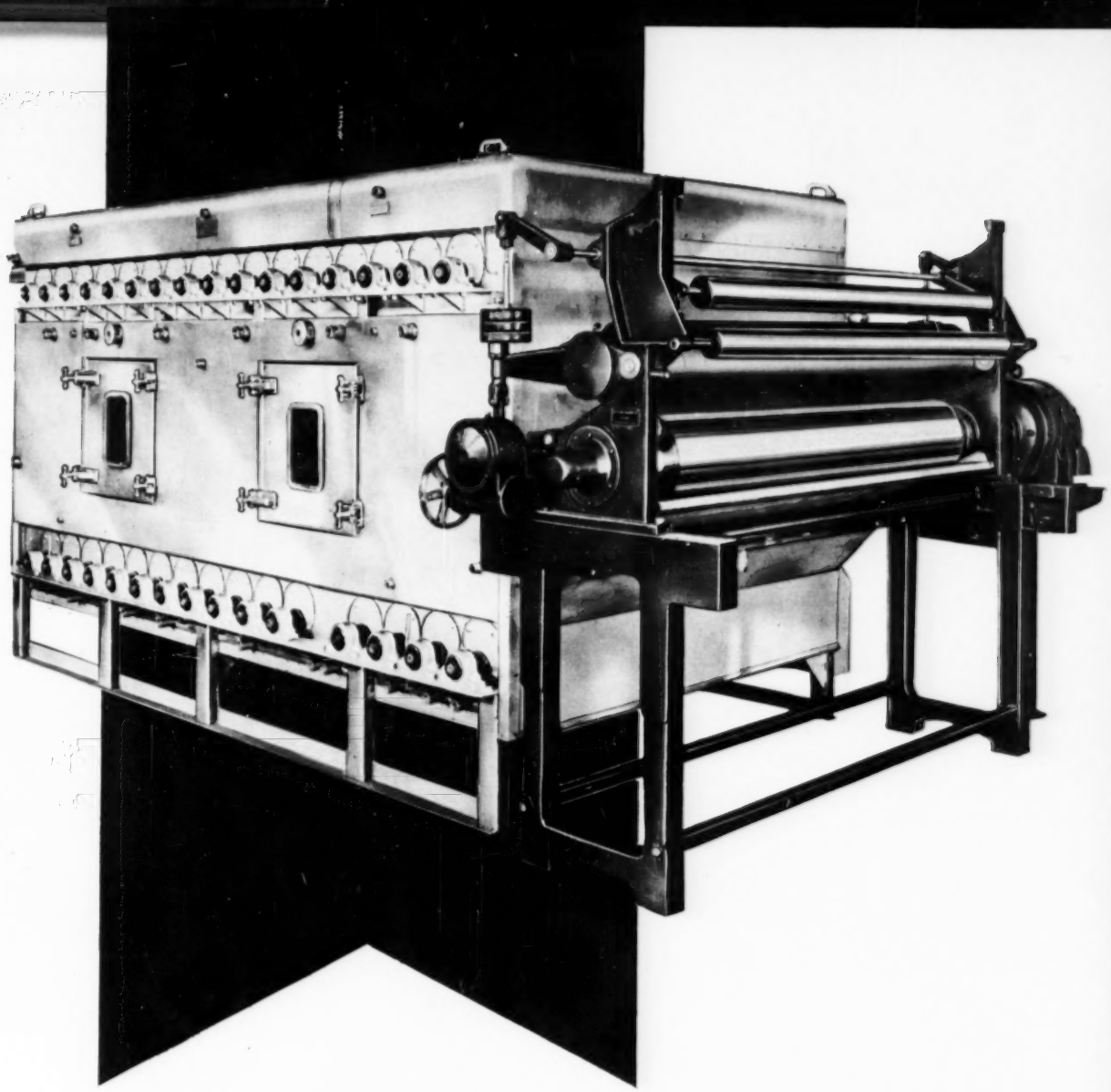

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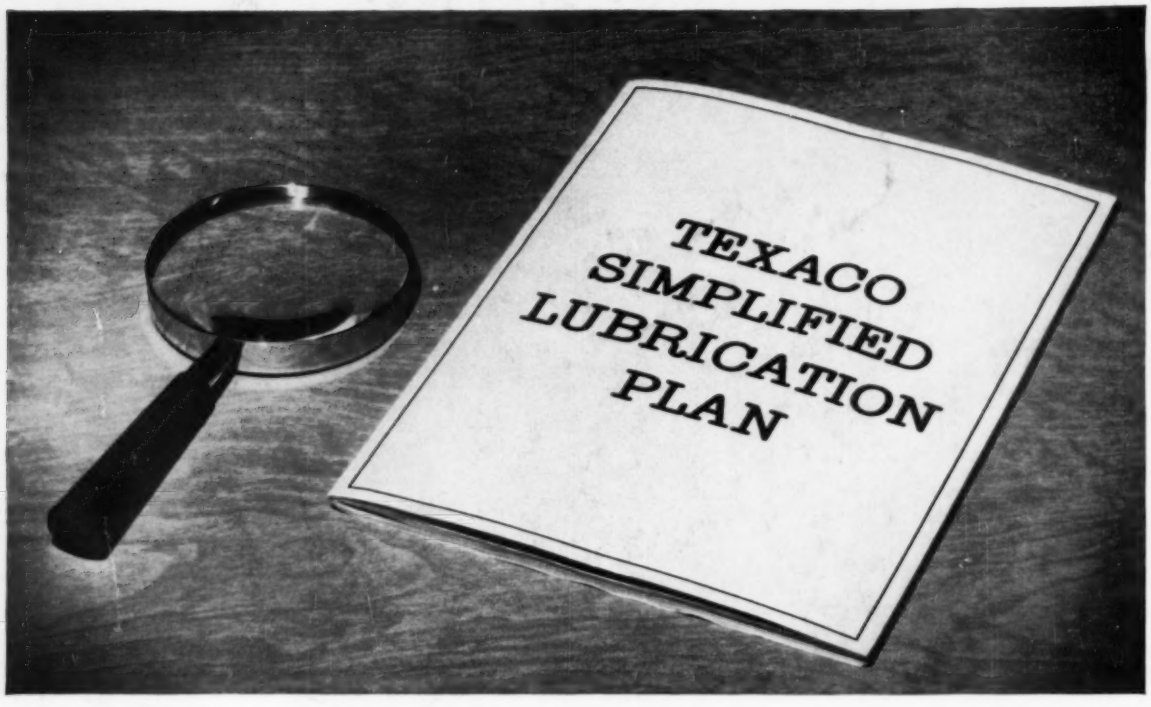

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